



Australian Government
Australian Institute of
Health and Welfare

AIHW

Australia's mothers and babies

2018

in brief



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2018

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The Australian Institute of Health and Welfare is a major national agency whose purpose is to create authoritative and accessible information and statistics that inform decisions and improve the health and welfare of all Australians.

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AIHW information on mothers and babies

Australia's mothers and babies 2018—in brief presents an overview of the key statistics from the Australian Institute of Health and Welfare (AIHW) National Perinatal Data Collection. The corresponding online data visualisations complement this report and are available at <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies-data-visualisations>.

Detailed data tables, including state and territory data, are also available online at <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/contents/table-of-contents>.

This report and the data visualisations are part of a comprehensive program of AIHW work on maternal and perinatal care and outcomes. Other major projects include:

- National Core Maternity Indicators (NCMIs) data visualisations, available at <https://www.aihw.gov.au/reports/mothers-babies/ncmi-data-visualisations>. The NCMIs monitor the safety and quality of maternity care to ensure continual improvement following the introduction of the National Maternity Services Plan (AHMC 2011)
- National Maternity Data Development Project (NMDDP), with the latest report available at <https://www.aihw.gov.au/reports/mothers-babies/enhancing-maternity-data-collection-reporting-nmdd/>. The NMDDP aims to build a more comprehensive and consistent national data collection for maternal and perinatal health, including developing clinical data items and maternity models of care and establishing ongoing national maternal and perinatal mortality data collection and reporting
- reporting of maternal and perinatal indicators in the Australian Health Performance Framework, available at <https://www.aihw.gov.au/reports-data/australias-health-performance>. The framework presents geographic data for indicators on antenatal care in the first trimester, smoking during pregnancy, and low birthweight.

National Perinatal Data Collection

The National Perinatal Data Collection (NPDC) began in 1991 and is a collaborative effort by the AIHW and state and territory health departments.

Perinatal data are collected for each birth in each state and territory, usually by midwives and other birth attendants. The data are collated by the relevant state or territory health department and a standard de-identified extract is provided annually to the AIHW to form the NPDC.

The NPDC covers both live births and stillbirths, where gestational age is at least 20 weeks or birthweight is at least 400 grams (except in Victoria and Western Australia, where births are included if gestational age is at least 20 weeks or, if gestation is unknown, birthweight is at least 400 grams).

See Appendix A for more information about the NPDC.



1

At a glance

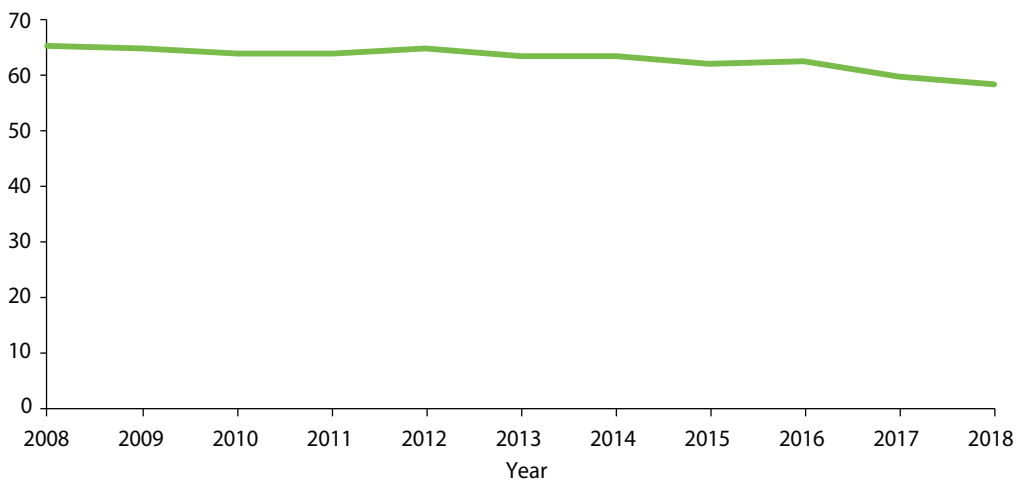
Mothers at a glance

The birth rate is falling

- In 2018, 298,630 women gave birth in Australia—an increase of 2% since 2008 (292,159 women), but a decline from a recent peak of 310,247 in 2016.
- The rate of women giving birth decreased between 2008 and 2018, with a rate of 58 per 1,000 women of reproductive age (15–44 years) in 2018, down from 65 per 1,000 women in 2008.

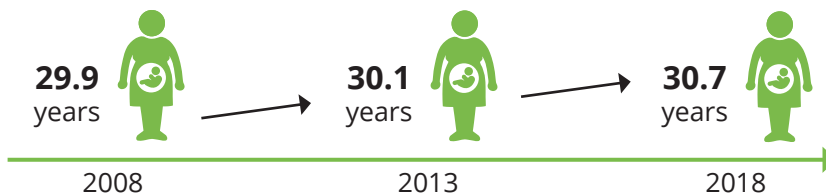
Rate of women of reproductive age giving birth, 2008 to 2018

Births per 1,000 women aged 15–44



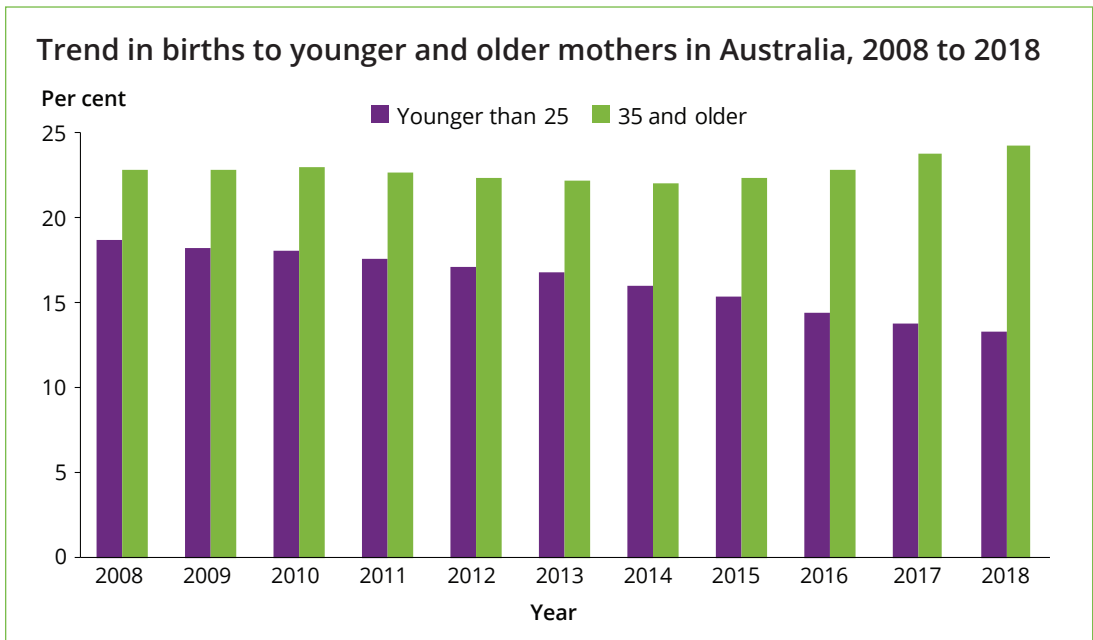
Women are giving birth later in life

- The average age of all women who gave birth continues to rise. It was 30.7 in 2018, compared with 29.9 in 2008. The median age was slightly higher, at 31 years in 2018.



Average age of all mothers, 2008 to 2018

- The average age also increased for Aboriginal and Torres Strait Islander mothers, from 25.1 in 2008 to 26.2 in 2018, with a median of 26 years.
- While the proportion of mothers aged 35 and over has remained relatively stable between 2008 and 2018 at 23–24%, the proportion of mothers aged under 25 fell from 19% to 13%.
- The average age of first-time mothers also increased, from 28.2 in 2008 to 29.3 in 2018.



The rate of multiple pregnancies has fallen

In 2018, multiple pregnancies represented 1.5% of all pregnancies. Almost all multiple pregnancies (98.5%) were twins, while a small proportion (1.5%) were other multiples (triplets, quadruplets or higher).

The proportion of multiple pregnancies was lowest among mothers aged under 20 (0.6%) and highest among mothers aged 40 and over (2.4%).

Between 2008 and 2018, the number of multiple pregnancies decreased from 4,703 in 2008 to 4,333 in 2018. The rate also decreased slightly over this time from 16 per 1,000 mothers to 15 per 1,000.

Most mothers live in *Major cities* and were born in Australia

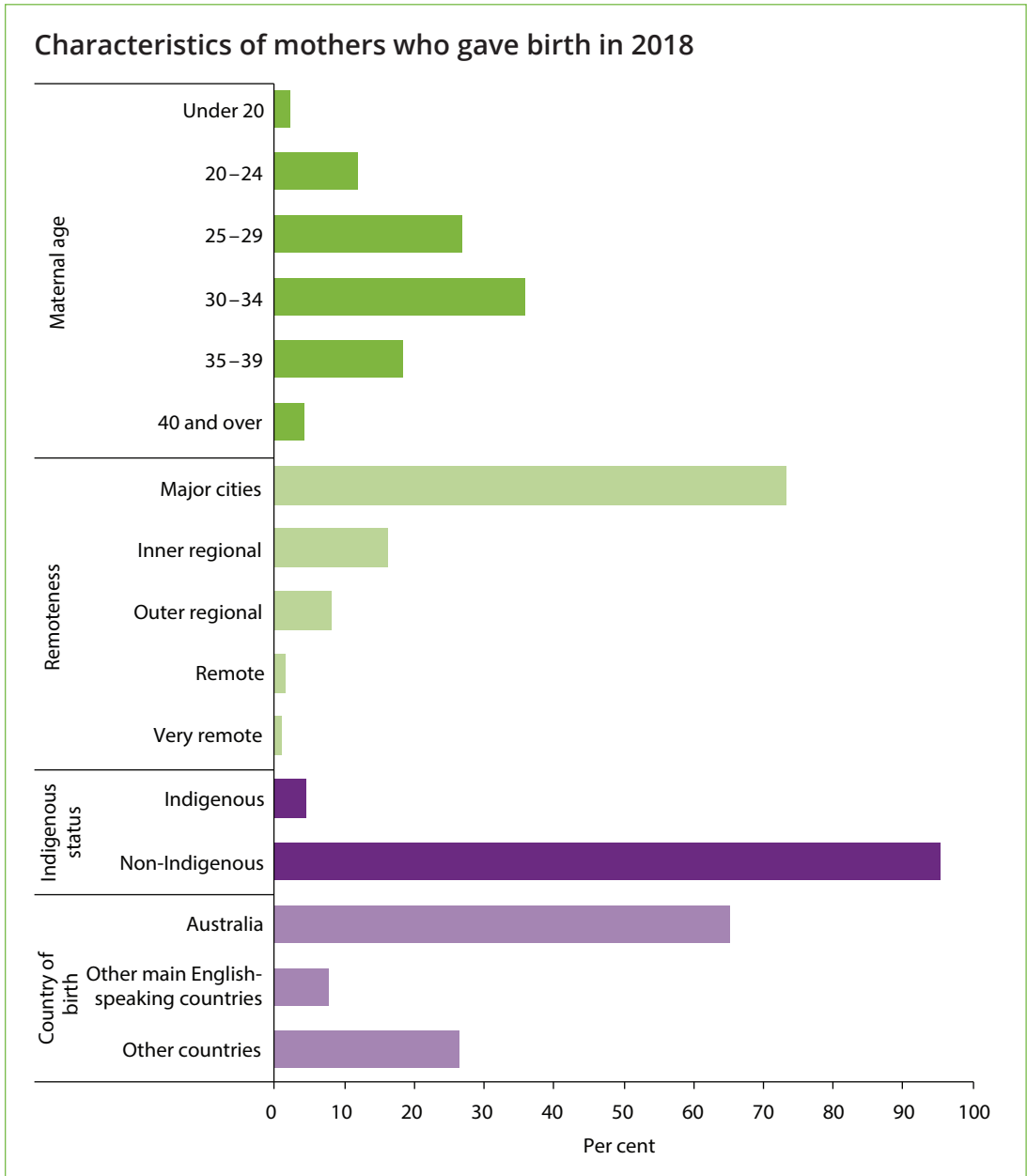
Most mothers lived in *Major cities* (73%) and most were themselves born in Australia (64%)—similar to the proportions of all women of reproductive age in the population.

Over one-quarter (27%) of mothers who gave birth in 2018 were born in a mainly non-English-speaking country (see Glossary), compared with 26% of women of reproductive age in the population. The proportion of mothers born in a mainly non-English-speaking country has increased from 19% in 2008.

1 in 22 mothers were Aboriginal and/or Torres Strait Islander

Around 4.6% of all mothers who gave birth in 2018 were Indigenous—slightly higher than the proportion of Indigenous women of reproductive age in the population (3.6%).

Indigenous mothers were, on average, younger than non-Indigenous mothers (26.2 years compared with 30.9).

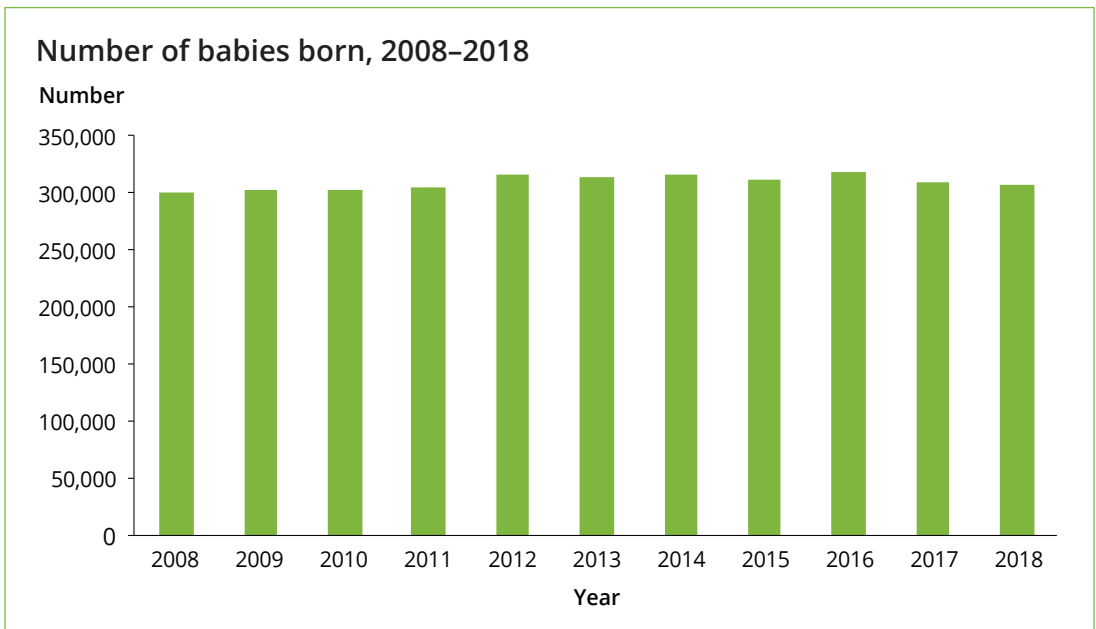


Find out more in data visualisations: [Demographics of mothers and babies](#)

Babies at a glance

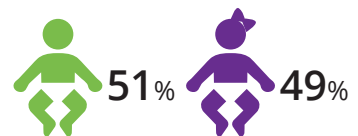
Fewer babies are being born in recent years

- 303,029 babies were born in 2018—an increase from 296,928 in 2008, but a decline of 4% from a recent peak of 314,814 in 2016.
- 300,902 were live births and 2,118 (less than 1%) were stillbirths (a baby born without signs of life, see Glossary). Birth status was not recorded for a small number of births.
- The stillbirth rate of 7.0 deaths per 1,000 births has fallen slightly following a recent peak of 7.8 per 1,000 births in 2009.



Baby boys slightly outnumber girls

Slightly more babies were male (51%) than female (49%) in 2018. This pattern is consistent with previous years. The ratio was 106.0 male liveborn babies per 100 female liveborn babies.



1 in 18 babies were Aboriginal and/or Torres Strait Islander

Around 1 in 18 babies (5.7% or 17,263) were Indigenous in 2018 (based on Indigenous status of the baby), and 1 in 22 babies (4.6% or 13,962) were born to Indigenous mothers (based on Indigenous status of the mother).



Find out more in data visualisations: [Demographics of mothers and babies](#)

2

Mothers

Antenatal care

Almost all mothers attend antenatal care, with 3 in 4 attending in the first trimester

Antenatal care is a planned visit between a pregnant woman and a midwife or doctor to assess and improve the wellbeing of the mother and baby throughout pregnancy. It does not include visits where the sole purpose is to confirm the pregnancy.

Antenatal care is associated with positive maternal and child health outcomes—the likelihood of receiving effective health interventions is increased through attending antenatal care. The Australian Pregnancy Care Guidelines (Department of Health 2018) recommend that the first antenatal visit occur within the first 10 weeks of pregnancy and that first-time mothers with an uncomplicated pregnancy attend 10 visits (7 visits for subsequent uncomplicated pregnancies).

Regular antenatal care in the first trimester (before 14 weeks gestational age) is associated with better maternal health in pregnancy, fewer interventions in late pregnancy and positive child health outcomes.

Almost all mothers (99.8%) who gave birth in 2018 had at least 1 antenatal visit:

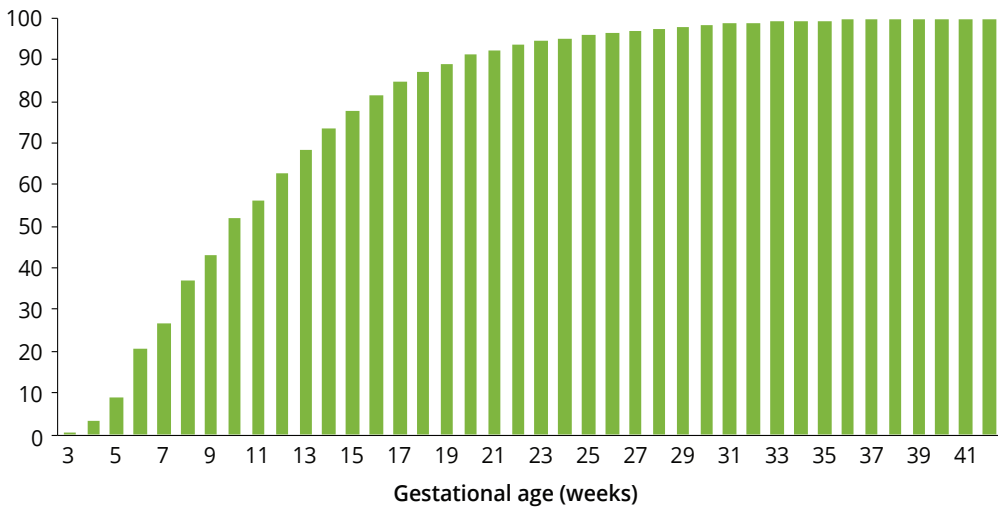
- 94% had 5 or more visits
- 85% had 7 or more visits
- 57% had 10 or more visits.

In 2018, in relation to the timing of the first antenatal visit:

- 61% of mothers had at least 1 antenatal visit in the first 10 weeks of pregnancy
- 74% of mothers had at least 1 antenatal visit in the first trimester (less than 14 weeks gestation)
- 8% did not begin antenatal care until after 20 weeks gestation.

Time to first antenatal visit, by gestational age, 2018

Cumulative percentage



Trend information on antenatal care is limited due to the relatively recent standardised collection of data. However, the available data show that the proportion of mothers who:

- had 5 or more antenatal visits throughout their pregnancy was 95.4% in both 2012 and 2018 (based on mothers who gave birth at 32 weeks or more gestation; excludes data from Victoria)
- received antenatal care in the first trimester of pregnancy increased from 62.7% in 2012 to 74.2% in 2018.

See Chapter 5 for more data on trends.



Find out more in the data visualisations: [Antenatal care](#)

Antenatal care visits vary by socioeconomic area and maternal characteristics

Mothers living in the lowest socioeconomic status (SES) areas began antenatal care later in pregnancy—70% of mothers living in the lowest SES areas attended antenatal care in the first trimester compared with 77% in the highest SES areas in 2018. This is an increase from 55% and 69% in 2012, respectively.

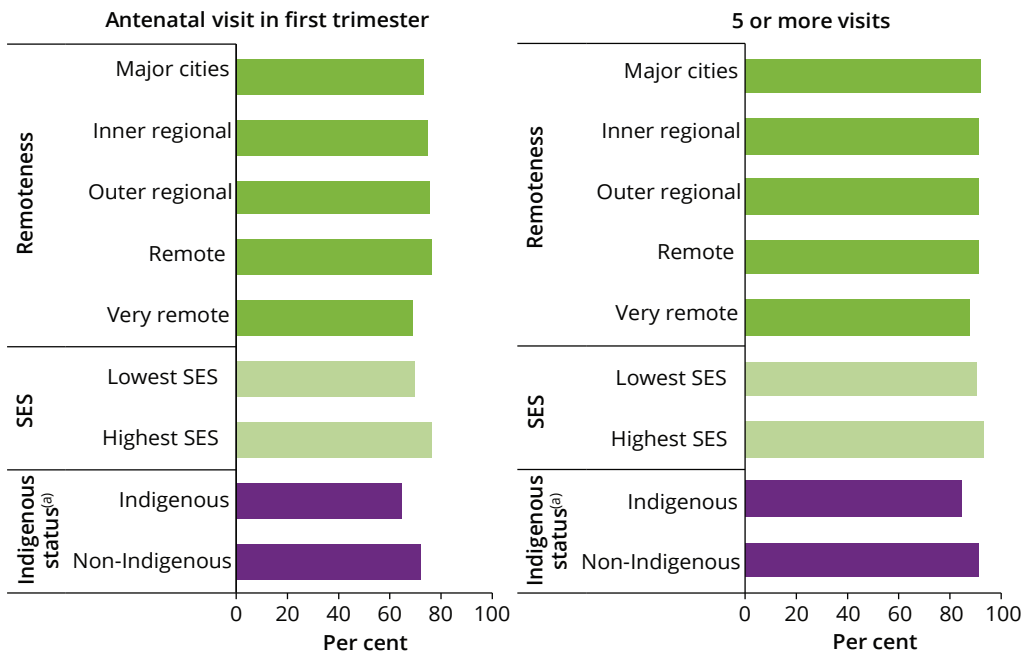
The proportion of mothers who had 5 or more antenatal visits varied slightly by remoteness and socioeconomic disadvantage (data exclude very pre-term births):

- 95% of mothers living in *Major cities* compared with 91% in *Very remote* areas
- 96% of mothers living in the highest SES areas compared with 93% in the lowest SES areas.

Mothers who were born in mainly non-English-speaking countries (see Glossary) were less likely to attend antenatal care in the first trimester (70% compared with 76% of those born in Australia and other mainly English-speaking countries). However, the proportion attending 5 or more antenatal visits was similar (94.3% compared with 94.5%).

Almost 2 in 3 Indigenous mothers had an antenatal visit in the first trimester (65%) and almost 9 in 10 attended 5 or more visits throughout their pregnancy (87%), compared with 73% and 94% of non-Indigenous mothers, respectively (age-standardised). See Chapter 4 for more information on Indigenous mothers.

Antenatal visits in the first trimester and 5 or more antenatal visits, by selected maternal characteristics, 2018



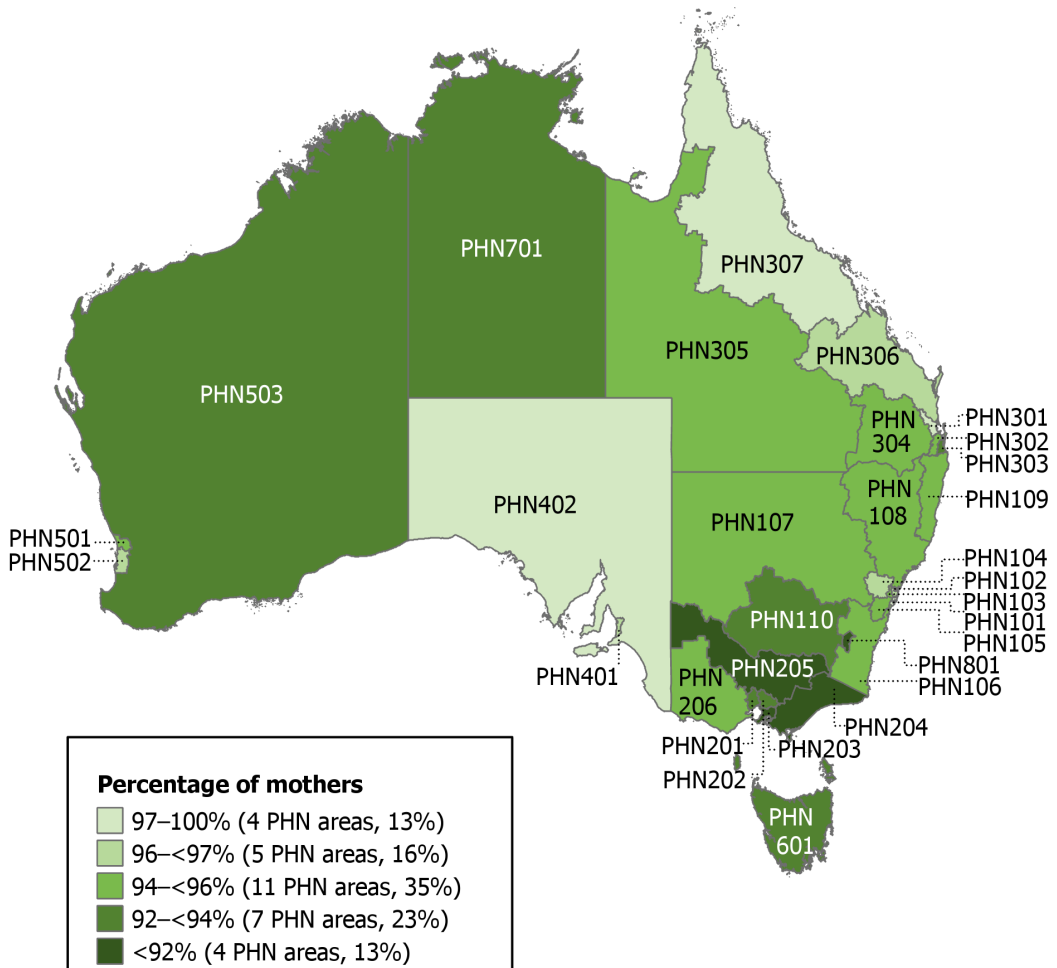
(a) Age-standardised percentages.

Note: Data on 5 or more antenatal visits exclude very pre-term births (less than 32 weeks gestation).

Number of antenatal visits varies depending on where mothers live

In 2018, the proportion of mothers attending 5 or more antenatal visits nationally was 94% (273,986) (data exclude very pre-term births). However, the proportion varied across Primary Health Network (PHN) areas, ranging from 84% in the Murray PHN area to 98% in the Brisbane North PHN area.

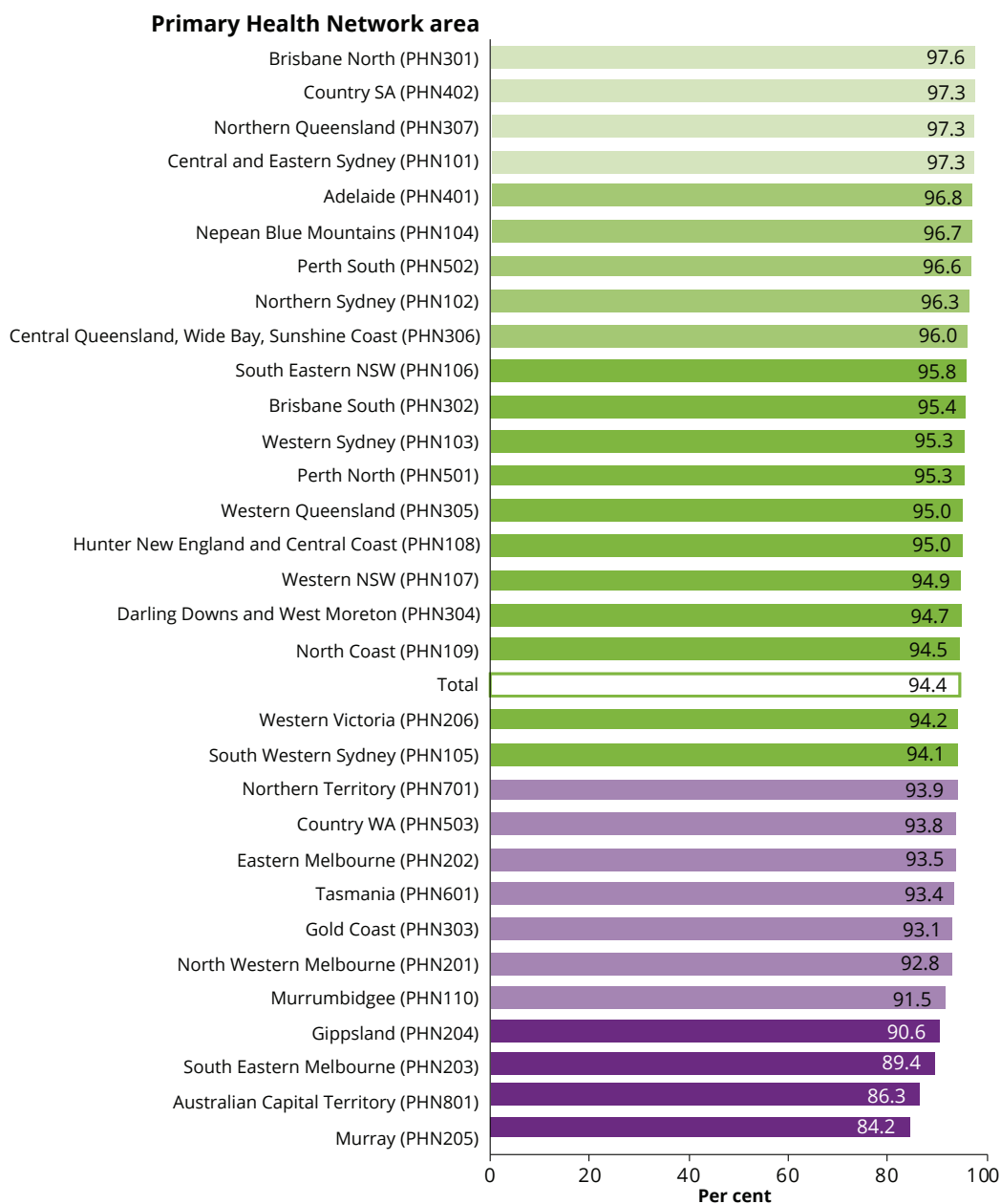
Geographic distribution of mothers attending 5 or more antenatal visits, by Primary Health Network area of usual residence, 2018



Notes

1. Data exclude very pre-term births (less than 32 weeks gestation).
2. For the Australian Capital Territory, in many cases, early antenatal care provided by the woman's general practitioner is not reported.
3. See data table 5.1 for detailed data, available from <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/data>.

Mothers attending 5 or more antenatal visits, by Primary Health Network area of usual residence, 2018



Notes

1. Data exclude very pre-term births (less than 32 weeks gestation).
2. For the Australian Capital Territory, in many cases, early antenatal care provided by the woman's general practitioner is not reported.
3. See data table 5.1 for detailed data, available from <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/data>.

Smoking during pregnancy

Rates of smoking during pregnancy continue to fall

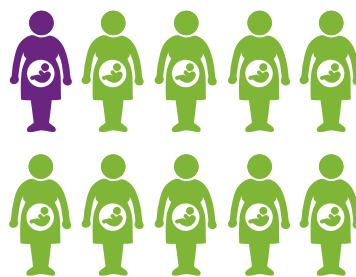
Tobacco smoking during pregnancy is the most common preventable risk factor for pregnancy complications, and is associated with poorer perinatal outcomes, including low birthweight, being small for gestational age, pre-term birth and perinatal death.

One in 10 mothers (28,219 or 9.6%) who gave birth in 2018 smoked at some time during their pregnancy, a decrease from 14.6% in 2009. More data on trends are available in Chapter 5.

Rates of smoking were higher in the first 20 weeks of pregnancy (27,402 or 9.2%) than after 20 weeks of pregnancy (21,497 or 7.3%).

Some mothers were more likely than others to smoke in the first 20 weeks of pregnancy. In 2018, proportions who smoked in the first 20 weeks of pregnancy were highest among the following mothers (noting that some may fall into more than one of these categories):

- those aged under 20—almost one-third (31%) compared with 6.0% of mothers aged 35–39 and 6.3% aged 40 and over
- those living in *Remote* and *Very remote* areas—around one-third (36%) of mothers in *Very remote* and less than one-fifth (18%) in *Remote* areas, compared with 6.9% of those living in *Major cities*
- those living in the lowest SES areas—almost one-fifth (17%) compared with 2.7% in the highest SES areas. The difference was still notable after adjusting for maternal age—19% compared with 7.3% (age-standardised percentages)
- those born in Australia or other mainly English-speaking countries—12% compared with 1.7% from mainly non-English-speaking countries (see Glossary)
- Indigenous mothers—43% of Indigenous mothers compared with 11% of non-Indigenous mothers (age-standardised percentages).

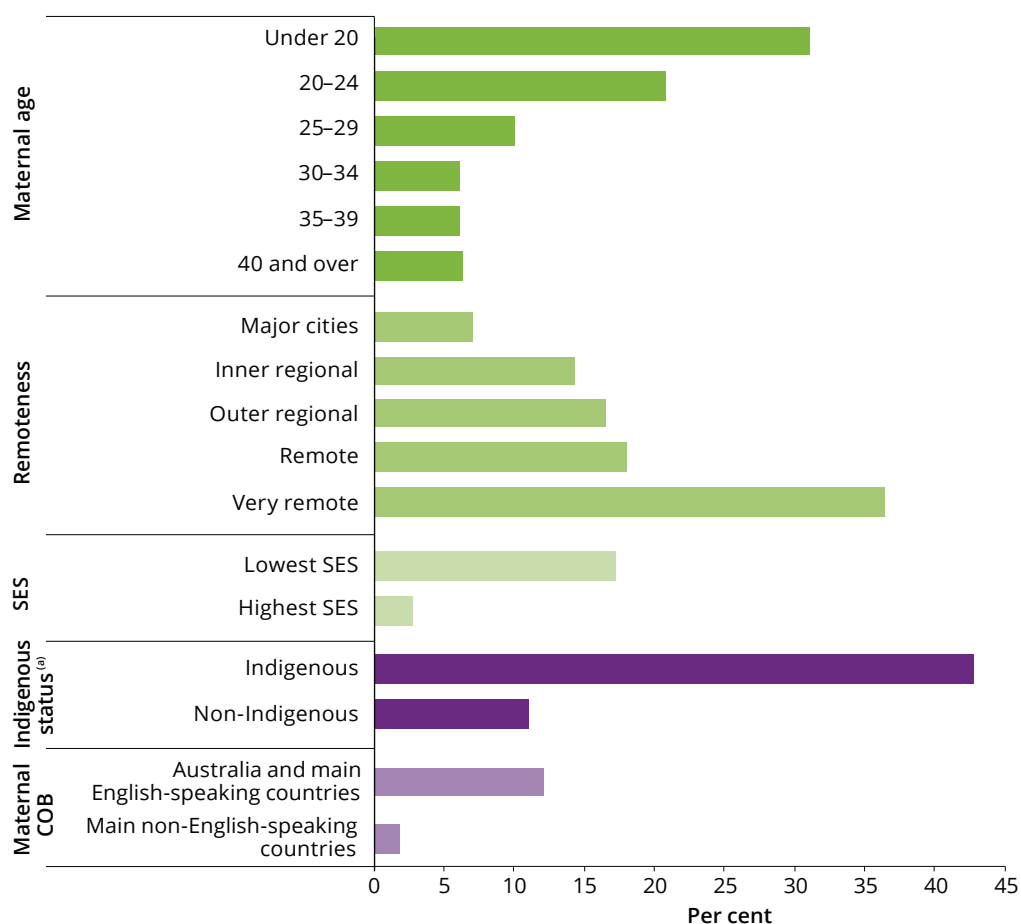


1 in 10 mothers smoked during pregnancy



Find out more in the data visualisations: [Smoking](#)

Mothers who smoked in the first 20 weeks of pregnancy, by selected maternal characteristics, 2018



(a) Age-standardised percentages.

(b) Country of birth.

Note: Per cents calculated after excluding records with not stated values.

1 in 5 quit smoking during pregnancy

Women who stop smoking during pregnancy can reduce the risk of adverse outcomes for themselves and their babies. Support to stop smoking is widely available through antenatal clinics.

One-fifth (5,578 or 20%) of the 27,402 mothers who gave birth in 2018 and who reported smoking during the first 20 weeks of pregnancy did not continue to smoke after 20 weeks of pregnancy.

Some women may smoke before knowing they are pregnant and stop once they find out that they are pregnant. According to the 2016 National Drug Strategy Household Survey, around 1 in 6 (16%) women smoked before they knew they were pregnant, and 1 in 10 (11%) smoked after they found out they were pregnant (AIHW 2018).

Maternal health

Almost half of mothers are overweight or obese at their first antenatal visit

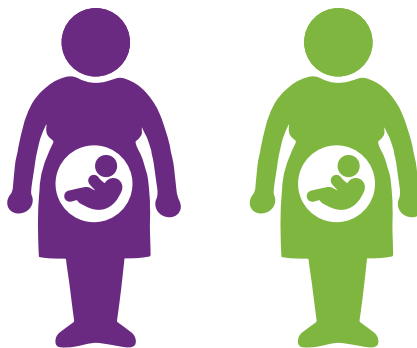
Obesity in pregnancy contributes to increased risks of illness and death for both mother and baby. Pregnant women who are obese have an increased risk of thromboembolism, gestational diabetes, pre-eclampsia, post-partum haemorrhage (bleeding) and wound infections. They are also more likely to deliver via caesarean section. Babies of mothers who are obese have higher rates of congenital anomaly, stillbirth and neonatal death than babies of mothers who are not (CMACE & RCOG 2010).

Body mass index (BMI) is a ratio of weight and height (kg/m²). The normal range of BMI for non-pregnant women is 18.5 to 24.9. While increases in BMI are expected during pregnancy, a BMI of 30 or more at the first antenatal visit is defined as obesity in pregnancy.

Among mothers who gave birth in 2018:

- one-fifth (21%) were classified as obese (with a BMI of 30.0 or more)
- one-quarter (26%) were overweight but not obese (BMI of 25.0–29.9)
- half (49.5%) were in the normal weight range (BMI of 18.5–24.9)
- one in 26 (3.8%) were underweight (BMI of less than 18.5).

The proportion of mothers who were overweight or obese increased with age, from 39% of mothers aged under 20 to 53% of those aged 40 and over. Mothers who had a caesarean section were more likely to be overweight or obese (54%) than mothers who had a non-instrumental (44%) or instrumental vaginal birth (38%) (age-standardised).



Almost 1 in 2 mothers were overweight or obese at their first antenatal visit

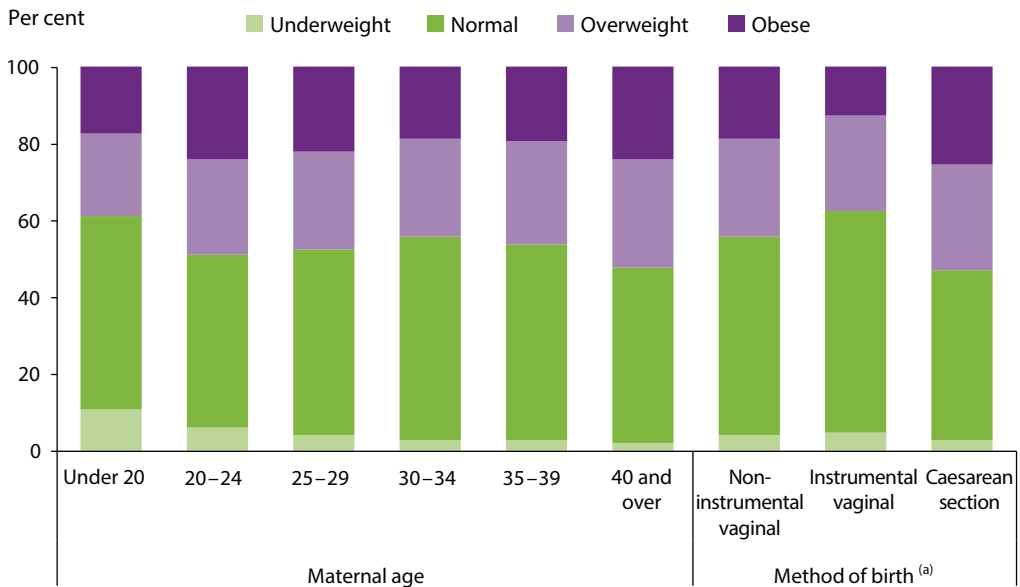
Diabetes and hypertension

Information is also available on other maternal health conditions, including pre-existing or gestational hypertension and diabetes. Gestational diabetes affected 135 per 1,000 mothers who gave birth in 2018, while a small proportion of mothers had other conditions:

- 34.1 per 1,000 had gestational hypertension
- 7.8 per 1,000 mothers had pre-existing (chronic) hypertension
- 8.1 per 1,000 had pre-existing diabetes.

Note that data collection methods for hypertension and diabetes vary across jurisdictions, and hypertension data exclude Victoria (see Appendix Table D2).

Mothers, by body mass index group, maternal age and method of birth, 2018



(a) Age-standardised percentages. For multiple births, the method of birth of the first-born baby was used.
 Note: Per cents calculated after excluding records with 'not stated' values.



Find out more in the data visualisations: [Body mass index](#) and [Maternal medical conditions](#)

Place of birth

Hospitals are the most common place to give birth

Almost all births in Australia occur in hospitals, in conventional labour wards. In 2018, 96% (287,589) of mothers gave birth in hospitals, while much smaller proportions gave birth in birth centres (2.7% or 8,209), at home (0.3% or 944) or in other settings, including births occurring before arrival at hospital (0.6% or 1,860 mothers).

Three-quarters of hospital births are in public hospitals

The majority (75%) of mothers who gave birth in hospital did so in a public hospital, and the remaining 25% in a private hospital. Around 3 in 5 (59%) mothers gave birth within 1 day of admission, and a further 29% within 2 days of admission.

After birth, the median length of stay in hospital was 3 days. The median was the same for mothers who delivered by caesarean section (3 days), but lower for those who had a vaginal birth (2 days). There was a trend toward shorter postnatal stays between 2008 and 2018: 22% of mothers were discharged less than 2 days after giving birth in 2018 (14% in 2008), and 13% of mothers stayed 5 or more days (19% in 2008). The proportion of mothers discharged between 2 and 4 days after giving birth was unchanged at 65% (based on mothers who were discharged to home, and excluding data from Western Australia, see Appendix Table D2).

The average age of mothers who gave birth in hospitals was 30.7 years, and 40% were under the age of 30. Mothers who gave birth in public hospitals were younger, on average (30.0), than those who gave birth in private hospitals (32.8). Mothers who gave birth in hospitals were more likely to be first-time mothers (43%) than in other settings, such as a birth centre (37%) or home (24%).

Liveborn babies born in hospitals had a lower average birthweight (3,333 grams) and lower average gestational age (38.6 weeks) than babies born in birth centres and home settings. This may be because babies requiring a higher level of care, including those who are pre-term or low birthweight, are more likely to be delivered in a hospital setting.

Mothers who give birth in birth centres are slightly younger

The average age of mothers who gave birth in birth centres was 30.0 years, slightly younger than in other birth settings, and 45% were under the age of 30. More than one-third (37%) of those who delivered in birth centres were first-time mothers. The average birthweight of liveborn babies born in birth centres was 3,461 grams and the average gestational age was 39.4 weeks.

Mothers giving birth at home are older and less likely to be first-time mothers

The average age of the relatively small number of mothers who gave birth at home was higher than in other settings (32.0 years), and these mothers were less likely to be aged under 30 (31%) or to be first-time mothers (24%). Liveborn babies born at home had a higher average birthweight (3,630 grams) and higher average gestational age (39.7 weeks) than in other places of birth. These data should be interpreted with caution, due to the small numbers of mothers giving birth at home.



Find out more in the data visualisations: [Place of birth](#)

Onset of labour

Younger mothers are more likely to have spontaneous labour

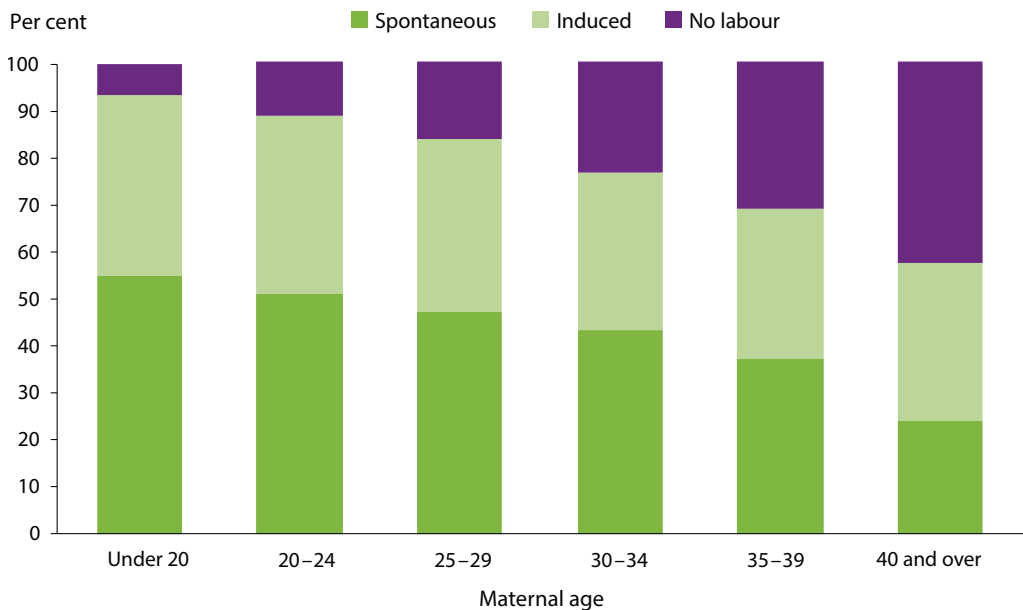
Labour can occur spontaneously or may be induced through medical or surgical intervention. If there is no labour, a caesarean section is performed.

Overall, fewer than half of mothers who gave birth in 2018 (43% or 129,136) had a spontaneous labour, around 1 in 3 had an induced labour (34% or 102,021) and around 1 in 5 had no labour onset (23% or 67,263).

Labour onset varied considerably by maternal age group. Younger mothers (aged under 20) were the most likely to have spontaneous labour onset (55%) and the least likely to have no labour onset (7%). Conversely, mothers aged 40 and over were least likely to have spontaneous labour onset (24%) and most likely to have no labour onset (43%). In comparison, there was little difference in the proportion of mothers with induced labour between the age groups (31–38%).

There were changes between 2008 and 2018 in the type of labour onset—a decrease in spontaneous labour (from 57% to 43%) and corresponding increases for the induction of labour (from 25% to 34%) and no labour onset (from 18% to 22%). See Chapter 5 for more data on trends.

Mothers, by onset of labour and maternal age, 2018



Note: 'Induced' may include cases where induction of labour was attempted but labour did not result.

Induction type and reason

For mothers whose labour was induced, a combination of medical and/or surgical types of induction were most commonly used (excludes data from Western Australia, see Appendix Table D2).

The main reasons for inducing labour were diabetes (14%), prolonged pregnancy (12%) and prelabour rupture of membranes (10%).

Augmentation of labour

Once labour starts, it may be necessary to intervene to speed up or augment the labour. Labour was augmented for 13% of mothers in 2018—equivalent to 31% of mothers with spontaneous onset of labour. The augmentation rate was higher among first-time mothers, at 42% of those with spontaneous labour onset, compared with 22% of mothers who had given birth previously (excludes data from Western Australia, see Appendix Table D2).



Find out more in the data visualisations: [Onset of labour](#)

Method of birth

Two-thirds of mothers have vaginal births, one-third have caesareans

In 2018, 65% of mothers (193,125) had a vaginal birth and 35% (105,477) had a caesarean section. Mothers who had a caesarean section include all mothers who had no labour onset, as well as some who required a caesarean section after labour started.

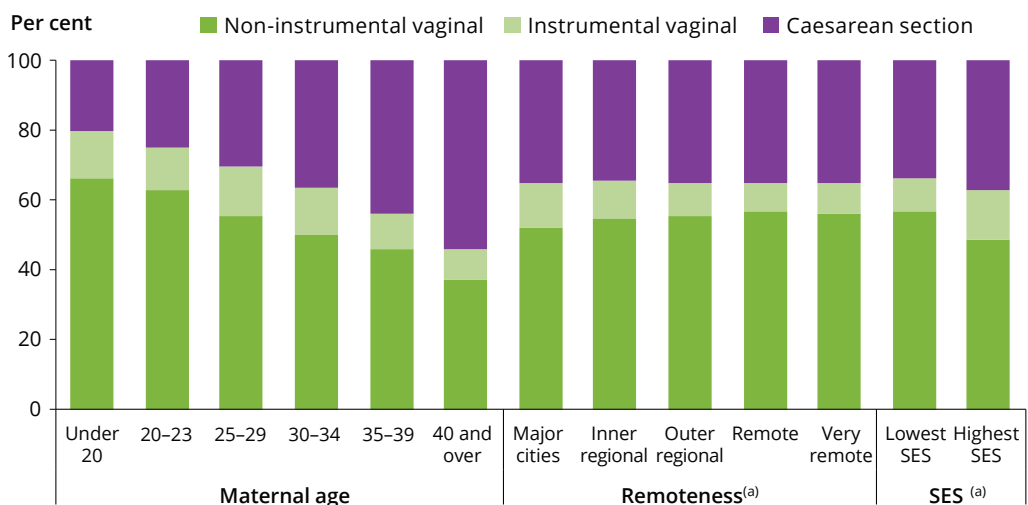
Most vaginal births (80%) were non-instrumental. When instrumental births were required, vacuum extraction was more commonly used than forceps (12% and 8%, respectively).

Non-instrumental vaginal birth decreased with age and increased slightly with each category of remoteness:

- Non-instrumental vaginal birth declined as maternal age increased (from 67% for teenage mothers to 38% for mothers aged 40 and over).
- Fewer mothers living in *Major cities* had a non-instrumental vaginal birth (52%) than mothers in *Very remote* areas (56%) (age-standardised).
- Mothers living in the highest SES areas were less likely to have a non-instrumental vaginal birth (49%) than those in the lowest SES areas (57%) (age-standardised).

Instrumental vaginal birth decreased as age increased (from 14% for teenage mothers to 8.4% for mothers aged 40 and over) and with increasing remoteness (from 13% in *Major cities* to 8.4% in *Very remote* areas, age-standardised). Instrumental vaginal birth was more common among mothers living in the highest SES areas (14%) than in the lowest SES areas (9.7%) (age-standardised).

Mothers, by method of birth and selected maternal characteristics, 2018



(a) Age-standardised percentages.

Note: For multiple births, the method of birth of the first-born baby was used.

Perineal status after vaginal birth

Almost one-quarter of mothers had an intact perineum after vaginal birth (23%) while around half either had a first degree laceration or vaginal graze (22%), or a second degree laceration (30%). A small proportion of mothers had a third or fourth degree laceration (3%) or other types of laceration (9%). Almost 1 in 4 mothers had an episiotomy (23%); of these, 42% also had a laceration of some degree. Therefore, these figures do not sum to 100%.

Internationally, Australia's rate of third and fourth degree lacerations was higher than the average for Organisation for Economic Co-operation and Development (OECD) countries in 2014 for both non-instrumental and instrumental vaginal births:

- 2.5 per 100 non-instrumental vaginal births compared with the OECD average of 1.4
- 6.8 per 100 instrumental vaginal births compared with the OECD average of 5.5 (OECD 2019).

Variation between countries is likely to be affected by differences in clinical practice and reporting (ACSQHC 2018).

Caesarean sections are more common among older mothers

Caesarean section rates increased with age, but differed little by remoteness and SES. Mothers aged 40 and over were almost 3 times as likely to deliver by caesarean section as teenage mothers (54% and 20%).

The overall rate of primary caesarean section (that is, caesarean sections to mothers with no previous history of caesarean section) was 25%; this rate was higher for first-time mothers (37%) and lower for mothers who had previously given birth (12%).

The great majority (86%) of mothers who had had a previous caesarean section had a repeat caesarean section, while the remainder had a vaginal birth (11% had a non-instrumental vaginal birth and 3.5% had an instrumental vaginal birth).

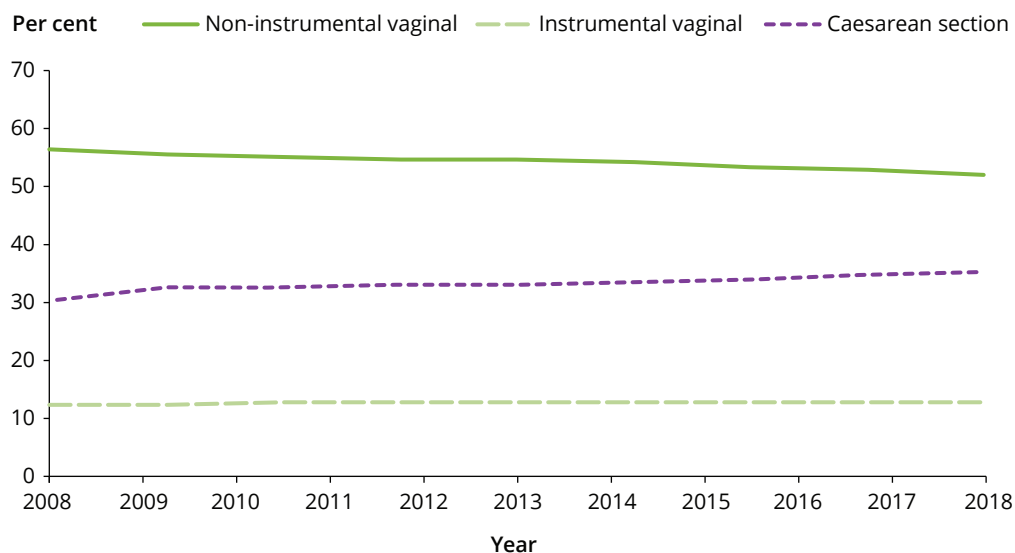
Having had a previous caesarean section was the most common main reason for having a caesarean section.

Caesarean sections have increased over time

Since 2008, vaginal non-instrumental births have fallen 6 percentage points (decreasing from 58% in 2008 to 52% in 2018) whereas the caesarean section rate has increased by 4 percentage points (from 31% in 2008 to 35% in 2018). Vaginal birth with instruments remained relatively stable, between 11% and 13%, throughout this period. These trends remain when changes in maternal age over time are taken into account. See Chapter 5 for more data on trends.

Internationally, the caesarean section rate has been increasing in most OECD countries. The OECD average increased from a rate of 20 per 100 live births in 2000 to 28 per 100 in 2017 or nearest year. Australia's rate remained higher than the OECD average over this time and ranked 27th of 34 OECD countries in 2017 or nearest year, with a rate of 34 per 100 live births (rates ranked from lowest to highest). The rate was lowest in Israel (15 per 100 live births) and highest in Turkey (53 per 100) (OECD 2019).

Mothers, by method of birth, 2008 to 2018



Note: For multiple births, the method of birth of the first-born baby was used.

Robson classification of caesarean sections

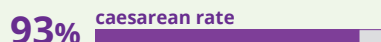
In 2015, the World Health Organization (WHO) recommended that, rather than using a population-based estimate of caesarean section rate, the Robson 10 group classification system (Robson classification) be used to evaluate and compare caesarean section rates between groups of women (ACSQHC 2018; WHO RHR 2015). The Robson classification allocates women to 10 mutually exclusive groups based on obstetric characteristics, such as parity (number of previous pregnancies), onset of labour, whether there has been a previous caesarean section, and the baby's gestational age (WHO RHR 2015) (for more detail see Appendix D).

In 2018, using the Robson classification, women with a breech pregnancy were most likely to have a caesarean section (93% for first births, 89% for subsequent births) followed by those with singleton pregnancies near term who had 1 or more previous caesarean sections (85%). Focusing on key groups within the Robson classification can provide a more detailed understanding of the relatively high caesarean section rate in Australia, and can be used to inform targeted intervention.

Women who gave birth in 2018, by the 10 Robson classification groups

First time mother, singleton pregnancy, baby in breech (feet first) presentation

5,999 women gave birth in this group
5,572 had a caesarean section



Mother has previously given birth with current singleton baby in breech (feet first) presentation

5,134 women gave birth in this group
4,579 had a caesarean section



Mother has previously given birth with a previous caesarean scar, singleton pregnancy, baby in vertex (head first) presentation, ≥ 37 weeks gestation

45,127 women gave birth in this group
38,583 had a caesarean section



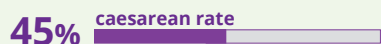
Multiple pregnancy, including women with previous caesarean scars

4,333 women gave birth in this group
3,158 had a caesarean section



First time mother, singleton pregnancy, baby in vertex (head first) presentation, ≥ 37 weeks gestation, induced labour or caesarean section before labour

60,743 women gave birth in this group
27,545 had a caesarean section



All women with a singleton pregnancy, baby in vertex (head first) presentation, ≤ 36 weeks gestation, including women with previous caesarean scars

17,108 women gave birth in this group
7,294 had a caesarean section



All women with a singleton pregnancy, baby in transverse (side on) or oblique lie, including women with previous caesarean scars

3,712 women gave birth in this group
1,527 had a caesarean section



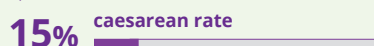
First time mother, singleton pregnancy, baby in vertex (head first) presentation, ≥ 37 weeks gestation, spontaneous labour (not induced)

48,523 women gave birth in this group
8,127 had a caesarean section



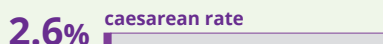
Mother has previously given birth without a previous caesarean scar, singleton pregnancy, baby in vertex (head first) presentation, ≥ 37 weeks gestation, induced labour or caesarean section before labour

47,234 women gave birth in this group
7,234 had a caesarean section



Mother has previously given birth without a previous caesarean scar, singleton pregnancy, baby in vertex (head first) presentation, ≥ 37 weeks gestation, spontaneous labour (not induced)

58,368 women gave birth in this group
1,492 had a caesarean section



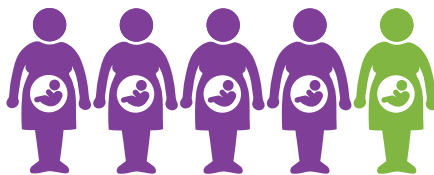
Pain relief during labour and operative delivery

Analgesia is used to relieve pain during labour (spontaneous or induced) while anaesthesia is used for operative delivery (caesarean section or instrumental vaginal birth). More than one type of analgesic or anaesthetic can be administered.

Of the 231,157 mothers who had labour in 2018, nearly 4 in 5 (78%) had pain relief. The most common types were nitrous oxide (inhaled) (53%), followed by regional analgesic (40%) and systemic opioids (14%). Mothers who did not have pain relief were more likely to be older, to have given birth before and to be Indigenous than those who had pain relief.

All mothers who have a caesarean section receive a type of anaesthetic, except in the rare case of post-mortem delivery. In 2018, the vast majority (94%) of mothers who had a caesarean section had a regional anaesthetic and 6.0% had a general anaesthetic (note that some mothers had both).

Most mothers who had an instrumental vaginal birth also had an anaesthetic (89%). A regional anaesthetic was most common (68% of mothers who had an instrumental vaginal birth), followed by a local anaesthetic to the perineum (22%).



**4 in 5 mothers with labour onset
received pain relief**



Find out more in the data visualisations: [Method of birth, Perineal status, Analgesia and Anaesthesia](#)

3

Babies

Gestational age

1 in 11 babies are born pre-term

Gestational age is the duration of pregnancy in completed weeks.

In 2018, the median gestational age for all babies was 39 weeks, with the vast majority (91%) born at term (37–41 weeks).

Overall, 8.7% of babies were born pre-term (before 37 completed weeks gestation) in 2018. Most of these births (82%) occurred between 32 and 36 completed weeks. The median gestational age for all pre-term births was 35 weeks.

Pre-term birth is associated with a higher risk of adverse neonatal outcomes. This is reflected in the median gestational age for liveborn babies (39 weeks), which was considerably higher than for stillborn babies (23 weeks). It is also reflected in the fact that most stillbirths were for pre-term babies (89%) and only 11% of stillbirths occurred at term.

Less than 1% (0.4%) of all babies were born post-term (42 weeks and over).

From 2008 to 2018, the proportion of babies born between 37 and 39 weeks remained steady, while the proportion born from 40 weeks onwards decreased.



8.7% pre-term



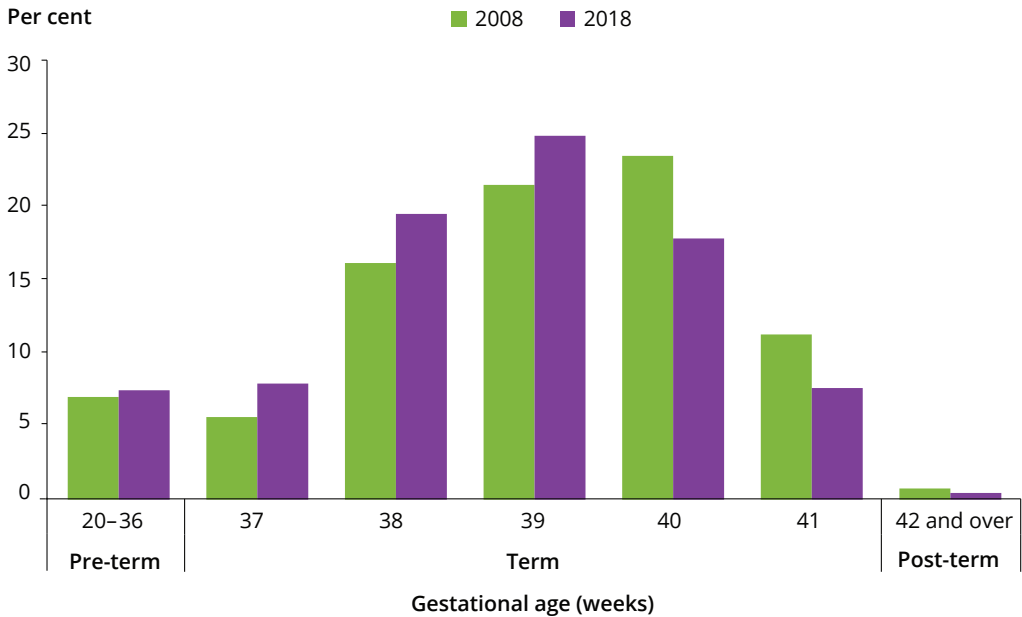
91% born at term



<1% post-term

Gestational age of babies in 2018

Babies, by gestational age, 2008 and 2018



Note: Pre-term births may include a small number of births of less than 20 weeks gestation.

Pre-term birth much more likely for multiple births

Babies born in multiple births were much more likely to be born pre-term—67% of twins and 98% of all other multiples (triplets and higher) were born pre-term in 2018. This compared with 7.0% of singleton babies.

Other characteristics associated with increased likelihood of pre-term birth (noting that some babies might have had more than one of these characteristics) included:

- babies of Indigenous mothers—14% born pre-term compared with 8.5% of babies of non-Indigenous mothers
- babies whose mothers smoked during pregnancy—14% born pre-term compared with 8.1% of babies whose mothers did not smoke
- babies born to mothers usually residing in more remote areas—13% in *Very remote* areas compared with 8.5% in *Major cities*
- babies of younger (aged under 20) and older (40 and over) mothers—11% and 12%, respectively, compared with 8.5% of babies with mothers aged 20–39.



Find out more in the data visualisations: [Gestational age](#)

Birthweight

The vast majority of liveborn babies are in the normal birthweight range

A baby's birthweight is a key indicator of infant health and a determinant of a baby's chances of survival and health later in life. This section provides an overview of birthweight; the sections that follow focus on low birthweight and small for gestational age babies.

In 2018, the average birthweight of all babies was 3,307 grams. The average was slightly higher for liveborn babies (3,323 grams), with the vast majority of these born in the normal birthweight range (92% or 277,285); 6.7% (20,094) were low birthweight and a small proportion were high birthweight (1.1% or 3,369).

The average birthweight of stillborn babies (1,012 grams) was around one-third of that for liveborn babies (3,323 grams). Almost 9 in 10 (86%) stillborn babies were low birthweight, and around two-thirds (68%) weighed less than 1,000 grams.

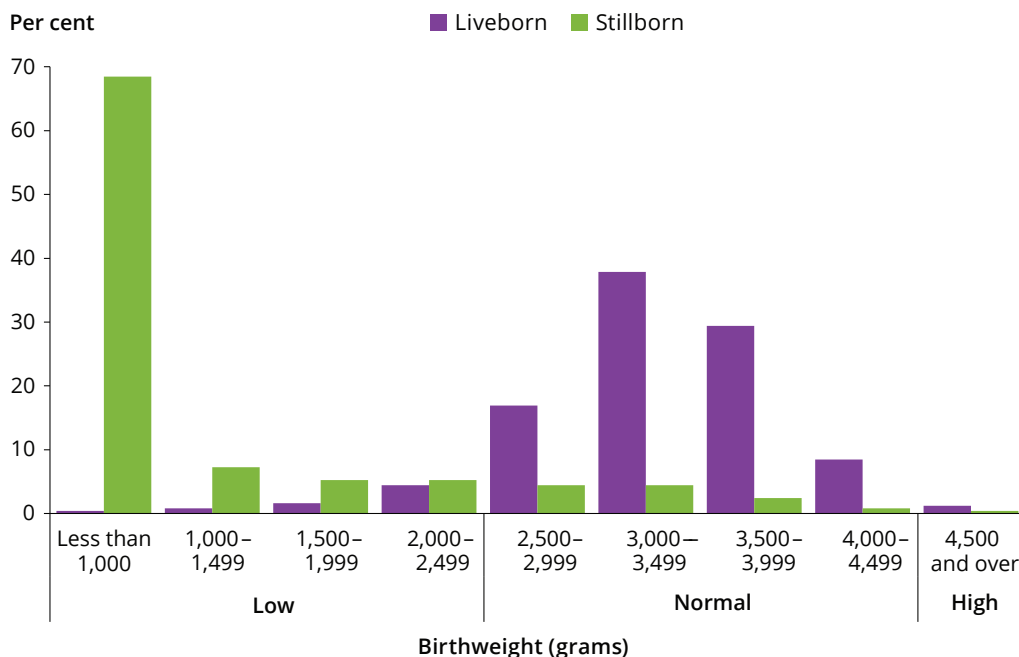
Birthweight ranges

High: 4,500 grams and over

Normal: 2,500 to 4,499 grams

Low: less than 2,500 grams
(WHO 1992)

Babies, by birthweight and birth status, 2018



Low birthweight

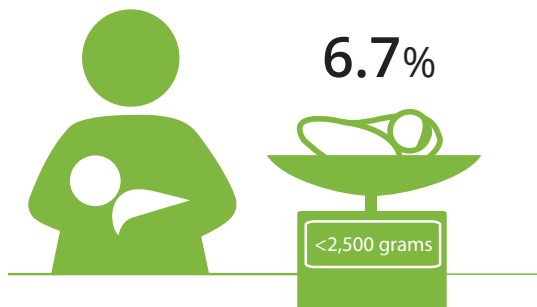
1 in 15 liveborn babies are low birthweight

Babies are considered to be of low birthweight when their weight at birth is less than 2,500 grams. Low birthweight is closely associated with pre-term birth—in 2018, almost 3 in 4 (72%) low birthweight babies were pre-term, and more than half of pre-term babies were of low birthweight.

This section looks at low birthweight in more detail, and relates to live births only.

In 2018, 6.7% (20,094) of liveborn babies were of low birthweight. Of these babies:

- 14% or 2,770 weighed less than 1,500 grams
- 6% or 1,176 weighed less than 1,000 grams.



Proportion of low birthweight babies in 2018

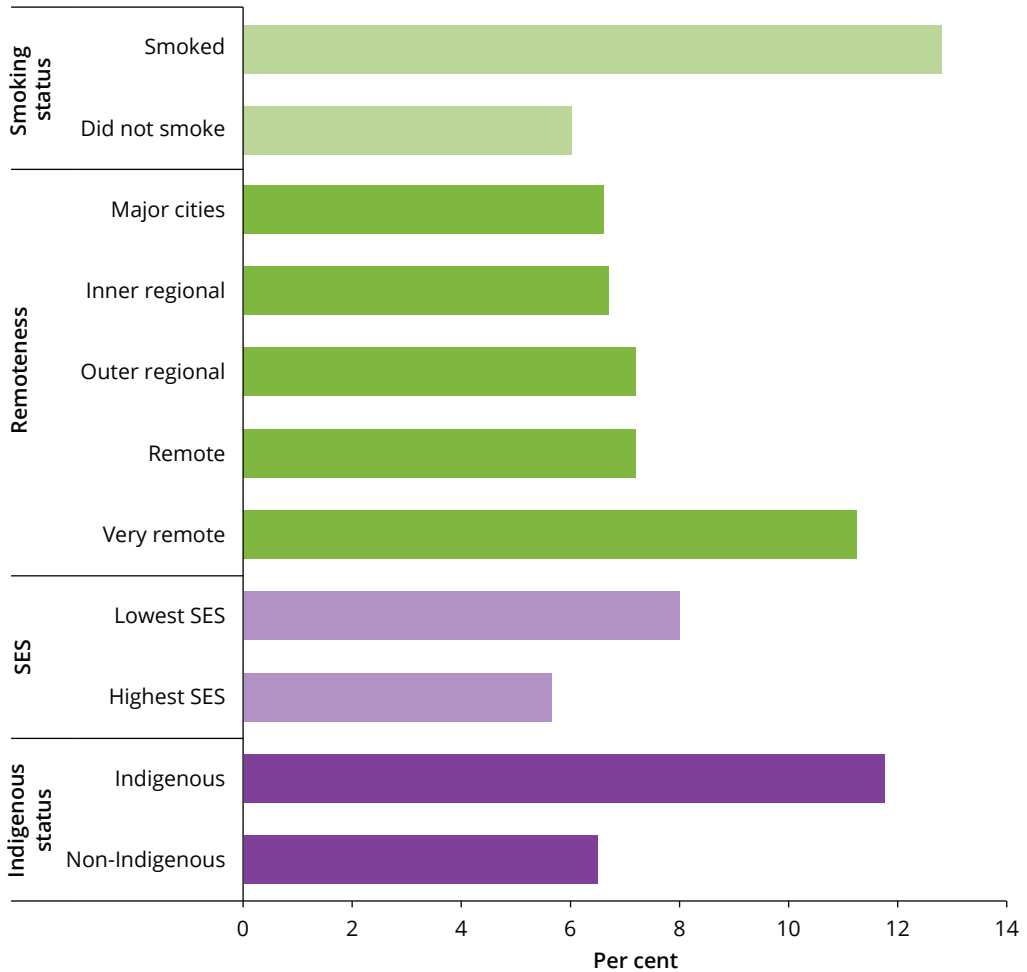
Between 2008 and 2018, there was little change in the proportion of low birthweight babies—it remained between 6.1% and 6.7%.

The proportion of low birthweight babies was higher among:

- female babies (7.3%) than male babies (6.1%)
- twins (56%) and other multiples (98%) than singletons (5.2%)
- babies born in public hospitals (7.2%) than babies born in private hospitals (5.1%)
- babies of mothers who smoked during pregnancy (13%) than babies whose mothers did not (6.0%)
- babies of Indigenous mothers (12%) than of non-Indigenous mothers (6.4%) (see Chapter 4 for more information).

Internationally, the proportion of low birthweight babies in Australia in 2017 or nearest year (6.5%) was equal to the OECD average (6.5%), with Australia ranked equal 19th of 36 OECD countries. The rate of low birthweight was lowest in Iceland (3.8%) and highest in Japan (9.4%) (OECD 2019).

Low birthweight liveborn babies, by selected maternal characteristics, 2018



Find out more in the data visualisations: [Birthweight](#)

Small for gestational age

Babies of mothers who smoked during pregnancy were more likely to be small for gestational age

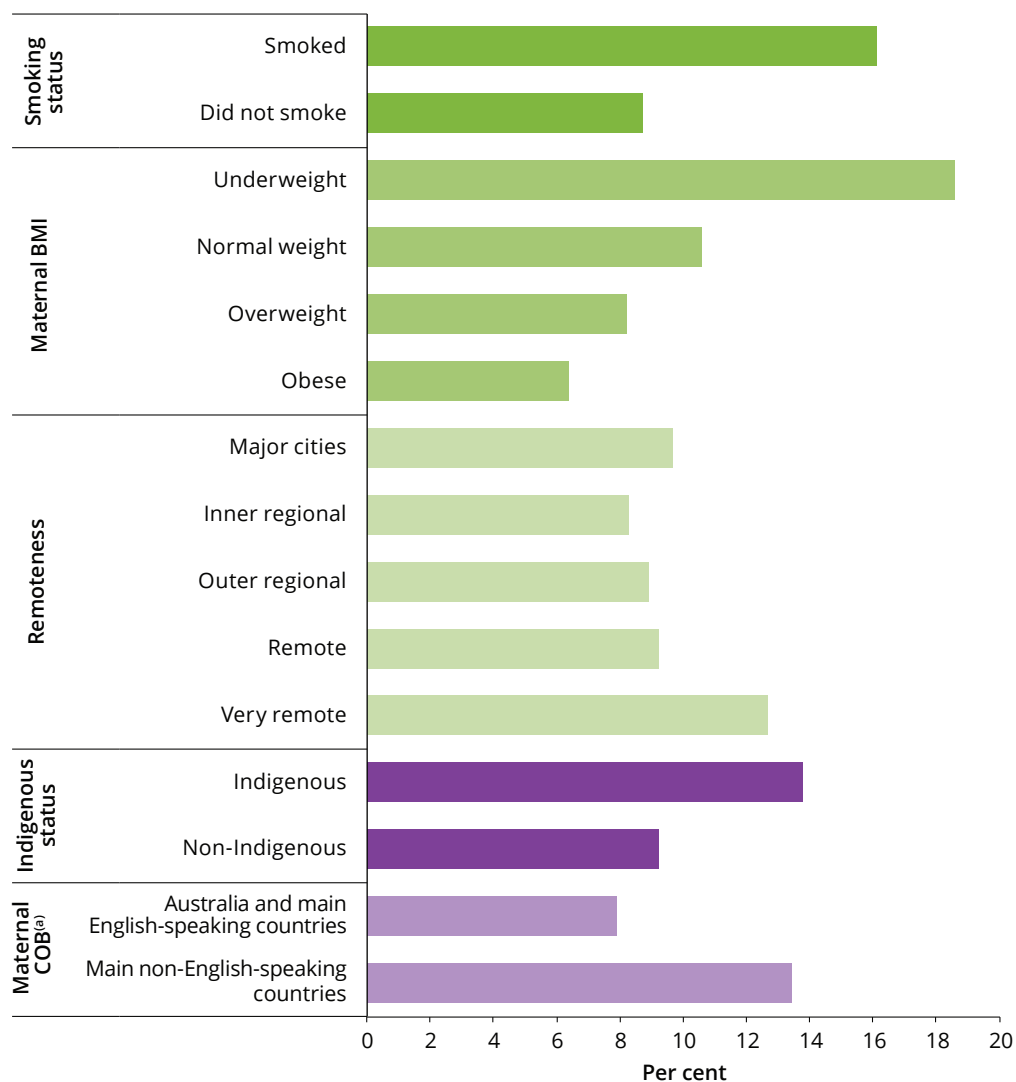
A baby may be small due to being born early (pre-term) or be small for gestational age, which indicates a possible growth restriction within the uterus. Poor fetal growth is associated with increased risk of stillbirth and with fetal distress during labour, and may predispose babies to long-term conditions in later life.

Babies are defined as small for gestational age if their birthweight is below the 10th percentile for their gestational age and sex, according to national birthweight percentiles. The latest birthweight percentiles were developed for Australia using information about liveborn singleton babies born between 2004 and 2013 (Johnson et al. 2016; for more detail see Appendix D). Data in this section relate to singleton live births only.

Certain characteristics associated with increased likelihood of being small for gestational age in 2018 (noting that some babies may have had more than one of these characteristics) included:

- babies of Indigenous mothers—14% were small for gestational age compared with 9.2% of babies of non-Indigenous mothers
- babies of mothers born in mainly non-English-speaking countries (see Glossary)—13% compared with 7.9% of babies whose mothers were born in Australia or other mainly English-speaking countries
- babies born to mothers usually residing in more remote areas—13% in *Very remote* areas compared with between 8.3% and 9.7% in other areas
- babies of mothers living in the lowest SES areas—11% compared with 8.4% in the highest SES areas
- babies of younger mothers (aged under 20)—14% were small for gestational age, compared with 9.3% of babies with mothers aged 20–39
- babies whose mothers were underweight—19% compared with 11% of babies whose mothers were in the normal weight range according to BMI
- babies whose mothers smoked during pregnancy—16% compared with 8.7% of babies whose mothers did not smoke.

Babies who were small for gestational age, by selected maternal characteristics, 2018



(a) Country of birth.

Note: Includes liveborn singleton babies only.

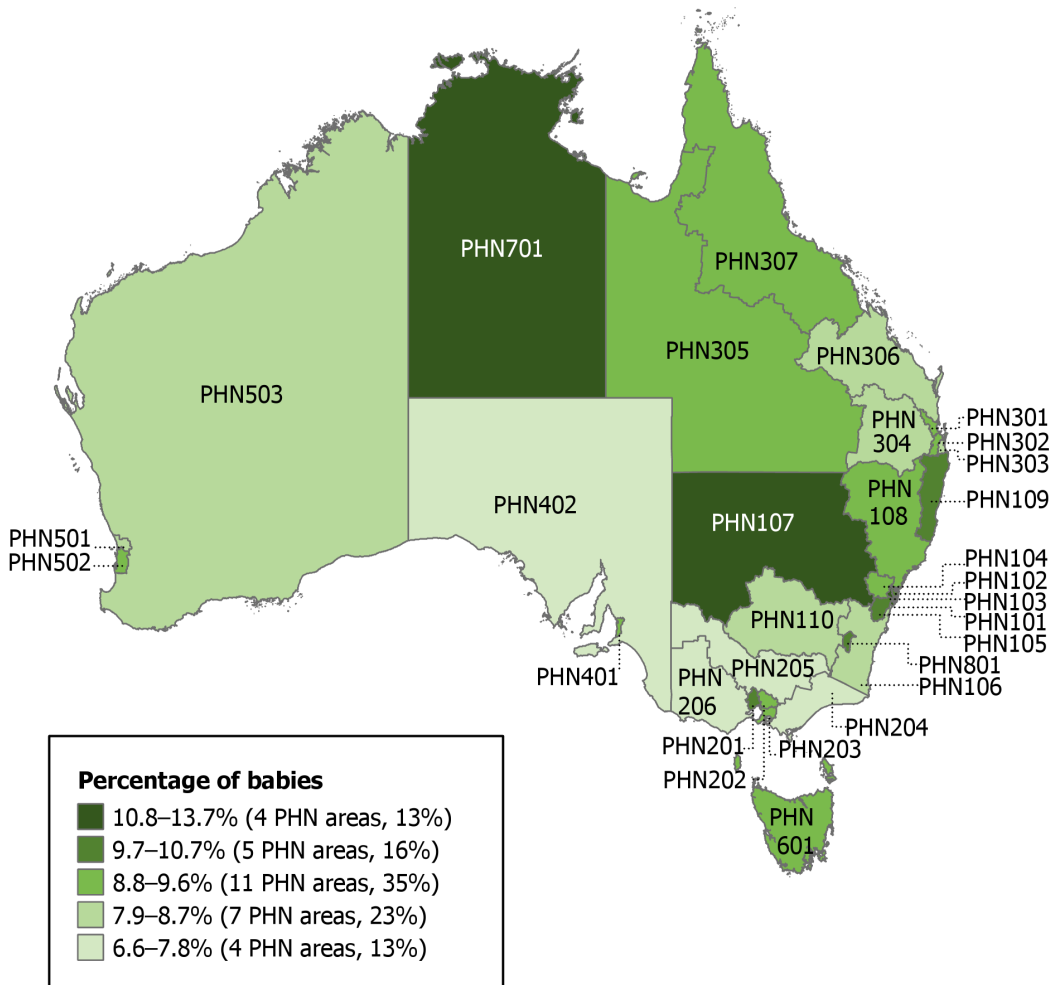


Find out more in the data visualisations: [Birthweight adjusted for gestational age](#)

Rates of small for gestational age babies vary depending on where mothers live

The proportion of liveborn singleton babies who were small for gestational age varied across the 31 PHN areas in Australia in 2018. The proportions ranged from 6.6% in the Western Victoria PHN area to 13.7% in the Western Sydney PHN area.

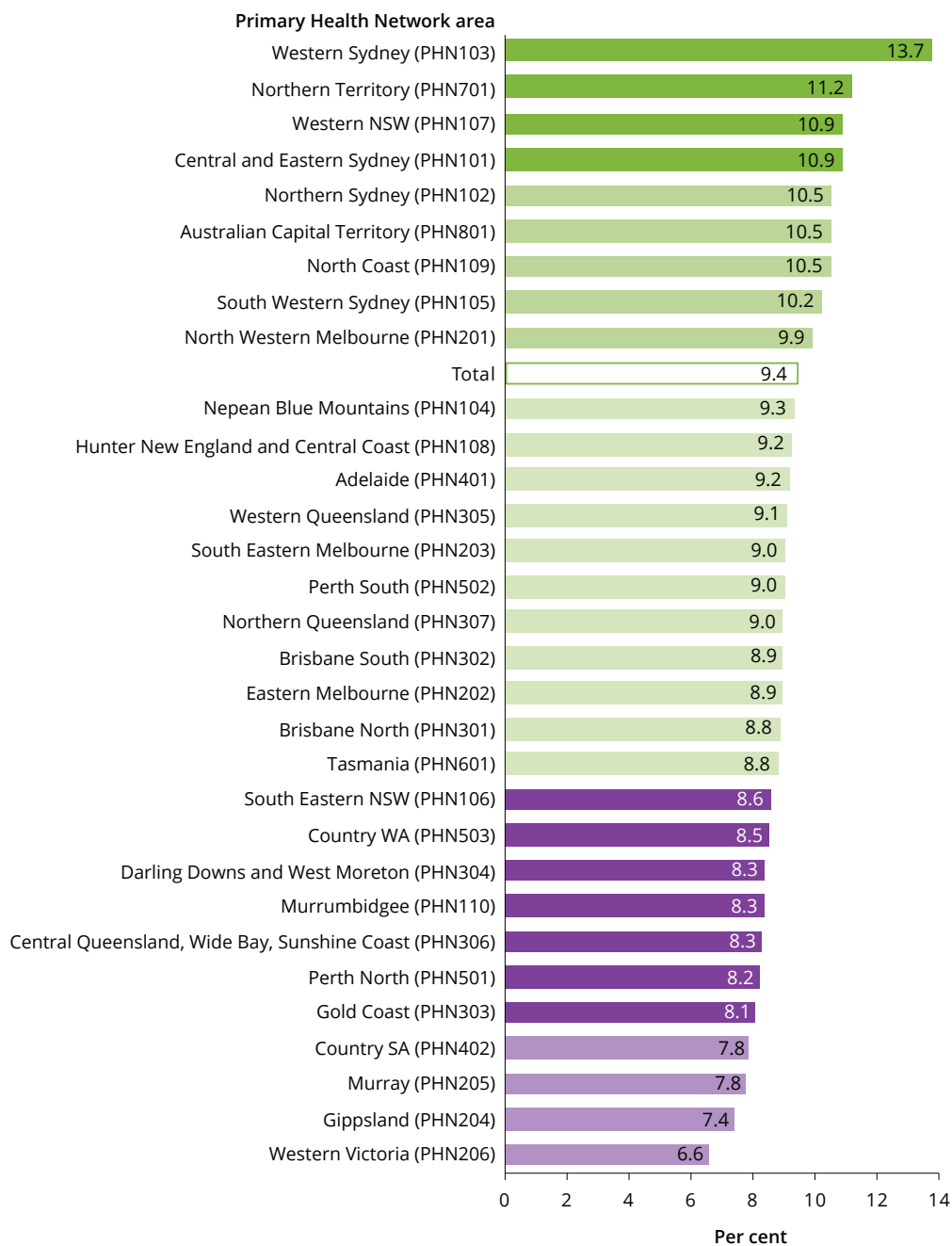
Geographic distribution of small for gestational age babies, by Primary Health Network area of mother's usual residence, 2018



Notes

1. See data table 5.6 for detailed data, available from <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/data>.
2. Includes liveborn singleton babies only.

Small for gestational age babies, by Primary Health Network area of mother's usual residence, 2018



Notes

1. See data table 5.6 for detailed data, available from <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/data>.

2. Includes liveborn singleton babies only.

Baby presentation and method of birth

Multiple births are less likely to present head first

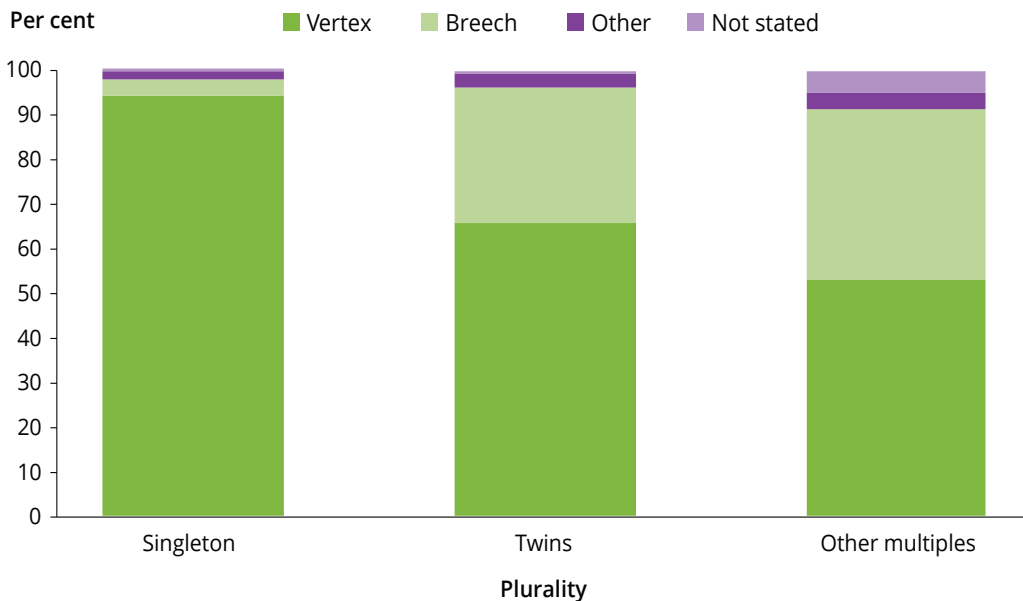
The presentation of the baby at birth refers to the anatomical part of the baby that is facing down the birth canal.

In 2018, the vast majority of babies (94% or 284,183) were in a vertex presentation at birth, in which the top of the head is facing down the birth canal. Small proportions of babies had different (non-vertex) presentations:

- around 1 in 22 babies (4.6% or 13,846) were in a breech presentation (where the baby exits buttocks or feet first)
- a small proportion of babies (1.5% or 4,499) were in other presentations including face, brow, shoulder/transverse and compound presentations.

In 2018, multiple births were around 7 times as likely to be in non-vertex presentation as singletons (34% and 5.2%, respectively). Non-vertex presentation among multiple births was 25% among babies who were born first and 44% among subsequent babies.

Babies, by presentation at birth and plurality, 2018

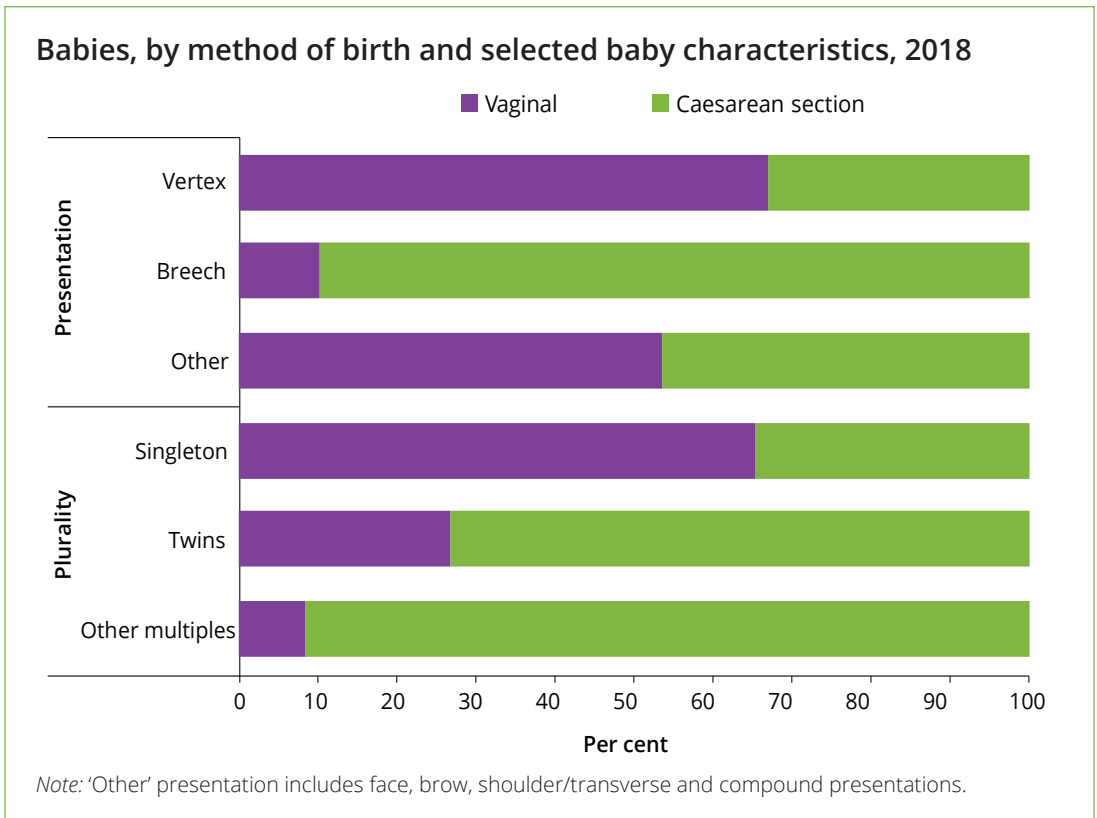


Note: 'Other' includes face, brow, shoulder/transverse and compound presentations.

A baby's presentation at birth can influence the method of birth. Most babies in a vertex presentation were delivered by vaginal birth (67%), and 33% were delivered via caesarean section. Conversely, 9 in 10 babies (90%) presenting in breech position were delivered via caesarean section, and only 10% delivered by vaginal birth.

A baby's method of birth can also be influenced by plurality (the number of births resulting from a pregnancy). The likelihood of vaginal birth decreased as plurality increased, from two-thirds (65%) of singleton babies, to around one-quarter (27%) of twins and 8.3% of other multiples. This pattern was reversed for caesarean sections, which were least common among singletons (35%) and most common among multiple births (73% of twins and 92% of other multiples).

See Chapter 2 for more information on method of birth for mothers, where the method of birth of the first-born baby is used when reporting multiple births.



Find out more in the data visualisations: [Method of birth and Presentation](#)

Apgar scores

Apgar scores are highest among babies born at term

Apgar scores are clinical indicators of a baby's condition shortly after birth. The score is based on 5 characteristics of the baby: skin colour, pulse, breathing, muscle tone and reflex irritability. Each characteristic is given between 0 and 2 points, with a total score between 0 and 10 points.

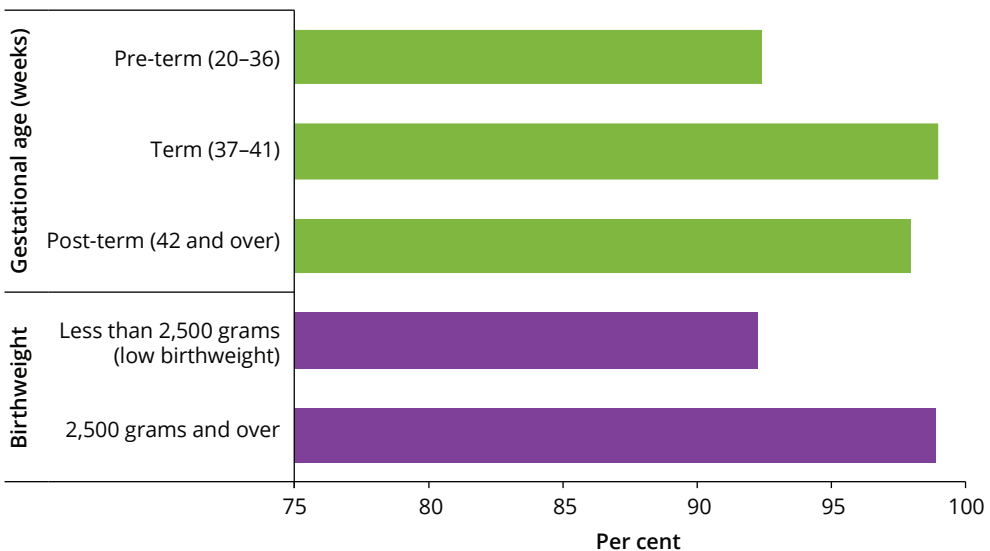
An Apgar score of 7 or more at 5 minutes after birth indicates the baby is adapting well to the environment, while a score of less than 7 indicates complications for the baby.

In 2018, almost all liveborn babies (98%) had an Apgar score of 7 or more. Apgar scores of 4–6 were recorded for 1.5% of all liveborn babies, while just 0.3% had scores of 0–3.

Apgar scores differed by gestational age and birthweight:

- 92% of babies born pre-term had an Apgar score of 7 or more, compared with 98% of babies born at term.
- 92% of low birthweight babies (less than 2,500 grams) had an Apgar score of 7 or more, compared with 98% of babies weighing 2,500 grams or more.

Liveborn babies, Apgar score of 7 or more at 5 minutes, by gestational age and birthweight, 2018



Find out more in the data visualisations: [Apgar score at 5 minutes](#)

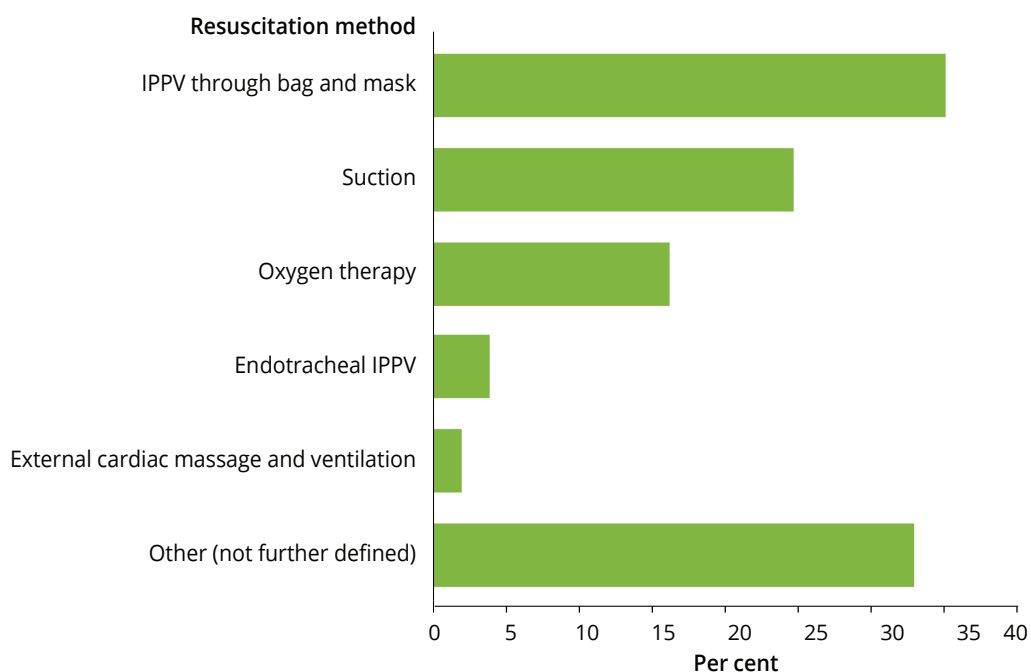
Resuscitation

1 in 5 liveborn babies require active resuscitation

Resuscitation is undertaken to establish independent breathing and heartbeat or to treat depressed respiratory effort and to correct metabolic disturbances. Resuscitation types range in severity from suction to external cardiac massage and ventilation. If more than 1 type of resuscitation is performed, the most severe type is recorded.

Almost one-fifth (19%) of liveborn babies required some form of active resuscitation immediately after birth in 2018 (excludes data from Western Australia, see Appendix Table D2). One-third of those requiring resuscitation received breathing assistance by intermittent positive pressure ventilation (IPPV) through a bag and mask or by endotracheal intubation (33%) and 31% received suction or oxygen therapy. Less than 1% of babies who required resuscitation had external cardiac massage and ventilation.

Liveborn babies who received active resuscitation, by resuscitation method, 2018



Note: Excludes data from Western Australia (see Appendix Table D2).



Find out more in the data visualisations: [Resuscitation](#)

Hospital births and length of stay

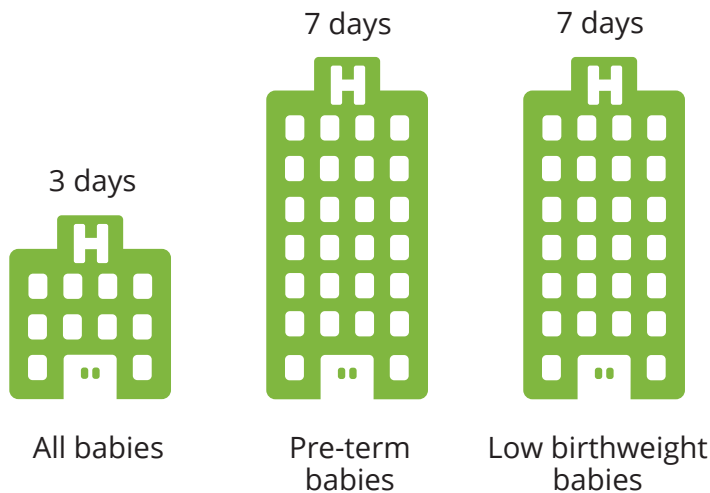
Pre-term babies, low birthweight babies and babies in multiple births stayed in hospital longer

The vast majority of babies were born in hospital (96% or 291,957 babies in 2018), and of these, most were discharged home (96% or 247,837). A small proportion of babies (3%) were transferred to another hospital and 1% died (includes stillbirths and neonatal deaths occurring in the hospital of birth). Note that all data presented for this topic exclude data from Western Australia (see Appendix Table D2).

Among babies who were discharged home, the median length of stay in hospital was 3 days, with over 9 in 10 (93%) staying 5 days or less.

A number of factors influence a baby's length of stay in hospital, including birthweight and gestational age: low birthweight babies had a median stay of 7 days (compared with 3 days for normal birthweight babies) and pre-term babies had a median stay of 7 days (compared with 3 days for babies delivered at term).

As noted in earlier sections, babies who are part of a multiple birth are more likely to be of low birthweight and to be born pre-term. This is reflected in the median length of stay in hospital, which was higher for twins (6 days) and for other multiples (26 days) than for singletons (3 days).



Median length of hospital stay



Find out more in the data visualisations: [Hospital length of stay \(baby\)](#)

Admission to special care nurseries and neonatal intensive care units

Pre-term babies and multiple births are more likely to need specialised care

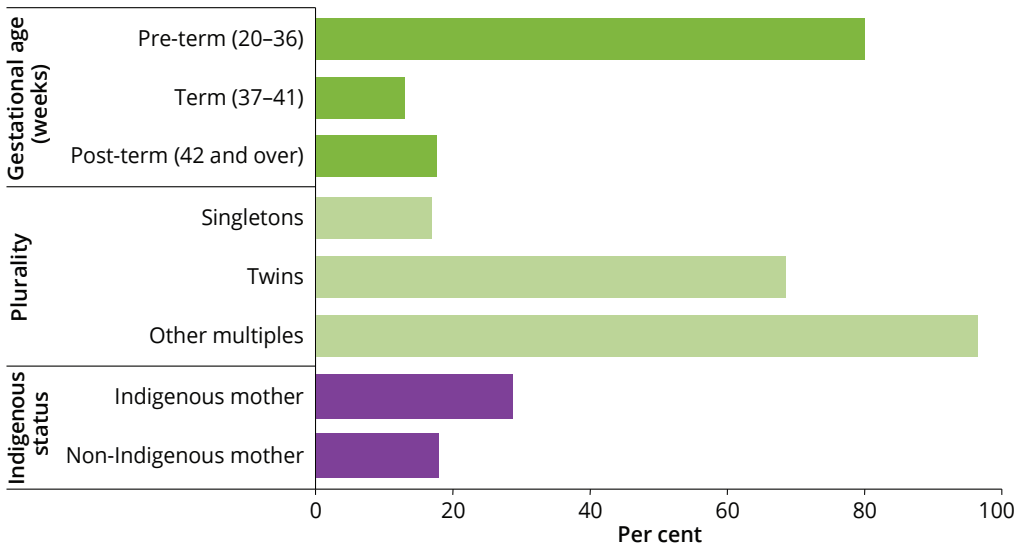
Some liveborn babies require more specialised treatment and care than is available on the postnatal ward. Of liveborn babies, 18% (31,838) were admitted to a special care nursery (SCN) or neonatal intensive care unit (NICU) in 2018. Note that babies who were transferred between hospitals (around 4% of all babies) and who were then admitted to an SCN or NICU may not be included in these data; data also exclude New South Wales and Western Australia (see Appendix Table D2).

Pre-term babies were more likely to be admitted to an SCN or NICU (80%) than babies delivered at term (13%) or post-term (17%). Most pre-term babies are of low birthweight, and 79% of low birthweight babies were admitted compared with 14% of normal birthweight babies and 24% of those with a high birthweight.

The majority of multiple births are pre-term, and therefore twins and other multiples were much more likely to be admitted than singletons (68% and 96%, respectively, compared with 17%).

Babies born to Indigenous mothers were 1.6 times as likely to be admitted to an SCN or NICU as babies of non-Indigenous mothers.

Liveborn babies, by admission to a special care nursery or neonatal intensive care unit, by selected baby characteristics, 2018



Note: Excludes data from New South Wales and Western Australia (see Appendix Table D2).



Find out more in the data visualisations: [Admission to a SCN or NICU](#)

Stillbirths and neonatal deaths

Gestational age and birthweight are the biggest predictors of perinatal death

Counting perinatal deaths

Various definitions are used for reporting and registering perinatal deaths in Australia. The National Perinatal Data Collection defines perinatal deaths as all fetal deaths (stillbirths) and neonatal deaths (deaths of liveborn babies aged less than 28 days) of at least 400 grams birthweight or at least 20 weeks gestation.

Fetal and neonatal deaths may include late termination of pregnancy (20 weeks or more gestation).

Perinatal and stillbirth rates are calculated using all live births and stillbirths in the denominator. Neonatal death rates are calculated using live births only.

Neonatal deaths may not be included for babies transferred to another hospital, re-admitted to hospital after discharge or who died at home after discharge. The Australian Institute of Health and Welfare (AIHW) has established a separate National Perinatal Mortality Data Collection to capture complete information on these deaths. The latest report from this collection is for deaths occurring in 2015 and 2016, and is available from the AIHW website <www.aihw.gov.au> (AIHW 2019).

Perinatal and infant death periods used by the National Perinatal Data Collection

20 weeks gestation	Labour	Birth	28 days	
Prior to labour and/or birth	During labour and/or birth	First 24 hours	1–7 days	8–27 days
Antepartum	Intrapartum	Very early neonatal	Early neonatal	Late neonatal
Stillbirths		Neonatal deaths		
Perinatal deaths				
<i>At least 20 weeks gestation or 400 grams birthweight</i>				

In 2018, there were 9.2 perinatal deaths for every 1,000 births, a total of 2,911 perinatal deaths. This included:

- 2,118 fetal deaths (stillbirths), a rate of 7.0 deaths per 1,000 births
- 671 neonatal deaths, a rate of 2.2 deaths per 1,000 live births.

Perinatal mortality rates fell as gestational age and birthweight rose:

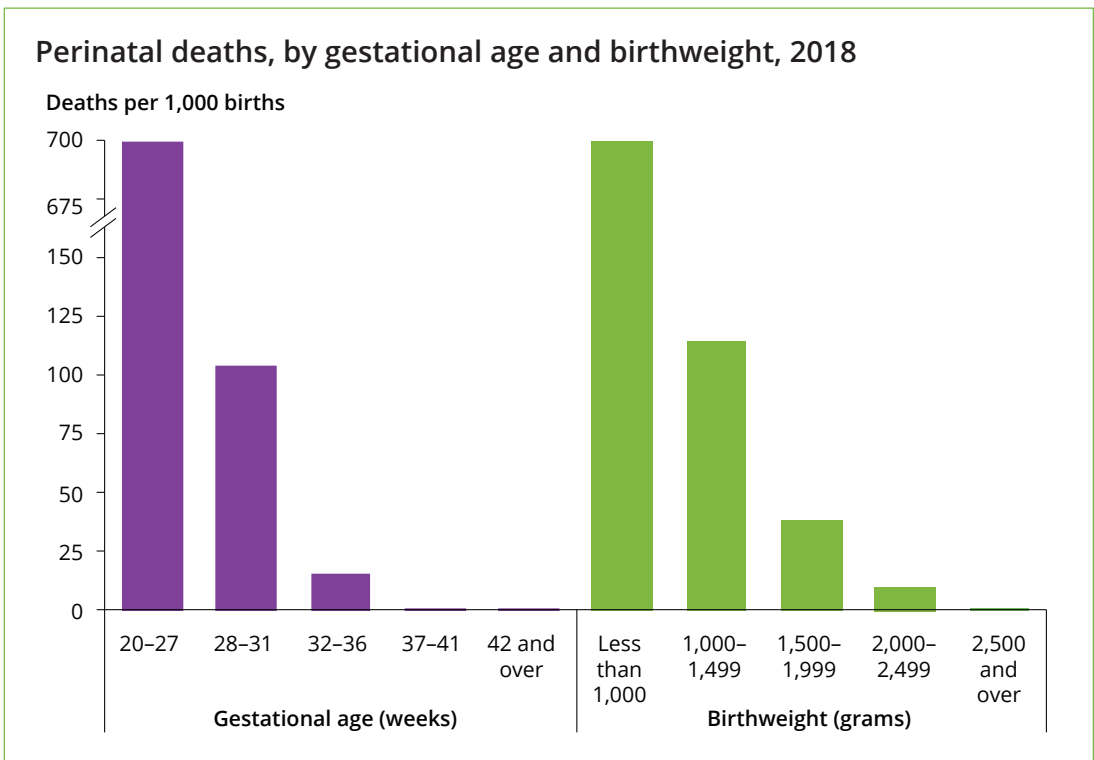
- For gestational age, rates were highest among babies born at 20–27 weeks gestation (699 per 1,000 births) and lowest among babies born at term (37–41 weeks) (1 per 1,000 births).

- For birthweight, rates were highest among extremely low birthweight babies (less than 1,000 grams) (699 per 1,000 births) and lowest among babies with a birthweight of 2,500 grams or higher (1 per 1,000 births).

Other factors associated with higher rates of perinatal mortality (although to a lesser extent than gestational age and birthweight) included:

- maternal age—babies born to mothers aged under 20, 20–24 and 40 and over had the highest rates of perinatal mortality (20, 11 and 12 deaths per 1,000 births, respectively). Babies of mothers aged 30–34 had the lowest rate (between 8 and 9 per 1,000)
- maternal Indigenous status—perinatal mortality rates among babies of Indigenous mothers (16 per 1,000 births) were 1.8 times those of non-Indigenous mothers (9 per 1,000) (see Chapter 4 for more information)
- multiple births—twins and other multiples had perinatal mortality rates around 3 and 12 times that of singletons (30 and 104 deaths per 1,000 births, respectively, compared with 9).

Patterns by these characteristics were similar for both stillbirths and neonatal deaths, noting that stillbirth rates were consistently higher than neonatal death rates.



Find out more in the data visualisations: [Stillbirths and neonatal deaths](#)

Congenital anomalies are the leading cause of perinatal deaths

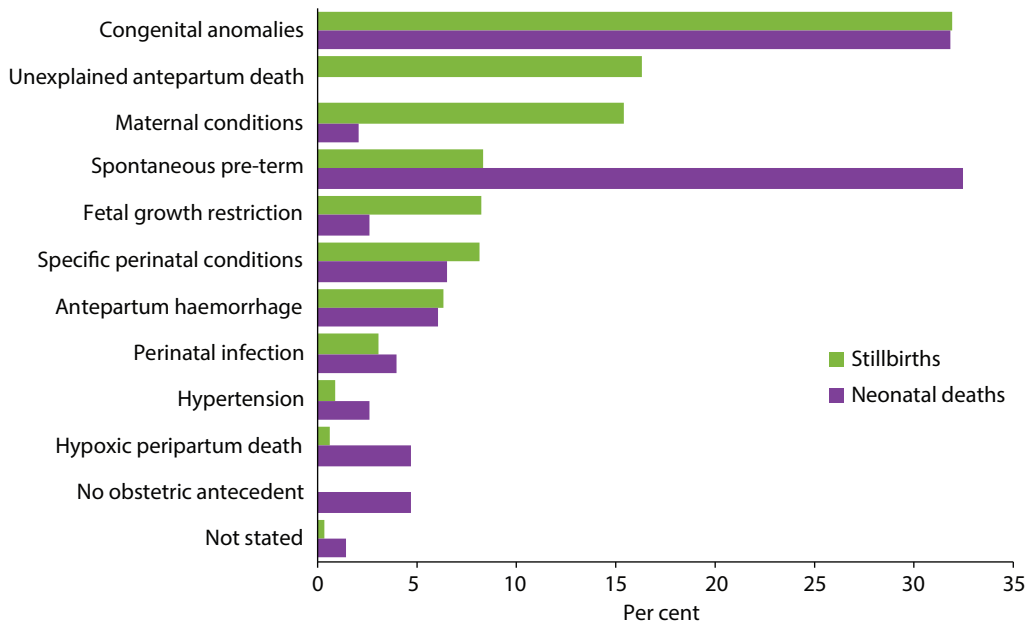
Classifying perinatal deaths

Causes of death for perinatal deaths are classified according to the Perinatal Society of Australia and New Zealand Clinical Practice Guideline for Perinatal Mortality Perinatal Death Classification (PSANZ-PDC).

Information about cause of death is based on data for 5 states and territories (Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory). Perinatal deaths in these 5 jurisdictions (1,683 deaths) represented around 60% of all perinatal deaths in 2018.

The most common cause of all perinatal deaths was congenital anomalies, accounting for 3 in 10 (31%) perinatal deaths. This was followed by spontaneous pre-term birth (14%) and unexplained antepartum death and maternal conditions (both 12%). The leading causes of death vary between stillbirths and neonatal deaths.

Stillbirths and neonatal deaths, by cause of death (PSANZ-PDC), 2018



Note: Excludes data from New South Wales, Western Australia and the Northern Territory (see Appendix Table D2).

These patterns were influenced by gestational age, maternal age and plurality.
For example:

- perinatal deaths due to congenital anomalies increased with increasing maternal age
- spontaneous pre-term birth decreased with increasing gestational age
- the most common cause of death among singleton babies was congenital anomaly, while spontaneous pre-term birth and specific perinatal conditions were the most common causes of death among twins and other multiples
- most perinatal deaths of babies born to mothers aged under 20 were due to maternal conditions, while congenital anomalies were the most common cause of perinatal death for babies whose mothers were aged 40 and over.

4 Aboriginal and Torres Strait Islander mothers and their babies

Most Indigenous mothers and their babies are doing well, with improvements in outcomes for mothers and babies observed in recent years. There has been a notable increase in the proportion of Indigenous mothers attending an antenatal visit in the first trimester and a slight increase in the proportion attending 5 or more antenatal visits. The rate of Indigenous mothers smoking during pregnancy has declined, and there was also a small decrease in perinatal mortality rates.

Although a range of data by Indigenous status has been presented in earlier chapters, this chapter provides more in-depth information on Indigenous mothers and their babies. This is followed by some comparisons with non-Indigenous mothers and babies, which show the scope for further improvements.

All data in this chapter are based on crude rates rather than age-standardised rates, unless otherwise stated.



Proportion of Indigenous mothers and babies in 2018

In 2018, 4.6% of all women who gave birth identified as being Aboriginal and/or Torres Strait Islander. These 13,754 women gave birth to 13,962 babies. Around 1 in 18 (5.7% or 17,263) of all babies born were Aboriginal and/or Torres Strait Islander (based on the Indigenous status of the baby).

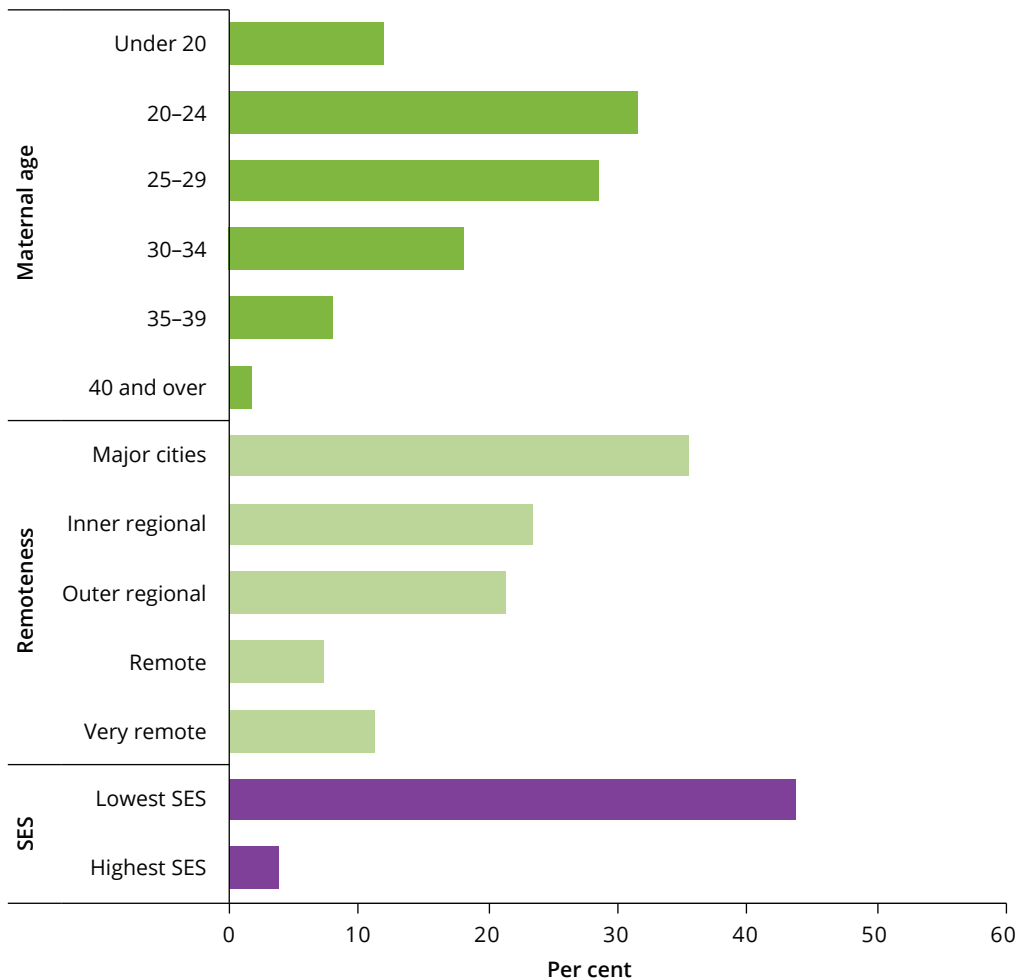
Indigenous mothers

3 in 4 Indigenous mothers who gave birth are aged under 30

In 2018, Indigenous mothers were most likely to:

- be aged 20–24 (31%), followed by 25–29 (29%) and 30–34 (18%)
- live in *Major cities* (36%); however, a substantial proportion lived in *Remote* (7.4%) or *Very remote* areas (11%)
- live in the lowest socioeconomic status (SES) areas (44%), with a small proportion living in the highest SES areas (3.8%).

Characteristics of Indigenous mothers who gave birth in 2018



More Indigenous mothers are accessing antenatal care in the first trimester

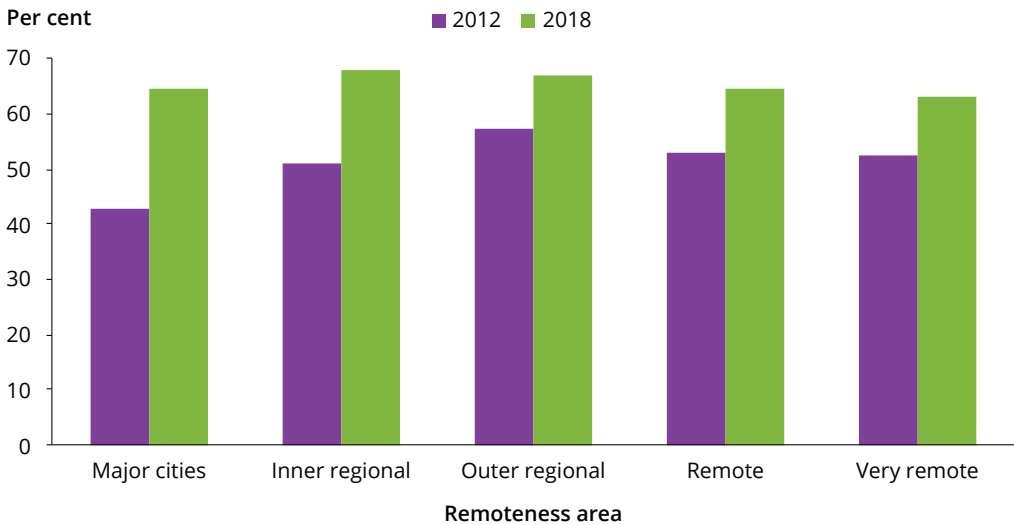
On average, Indigenous mothers attended their first antenatal visit at 12 weeks gestation and attended a total of 10 antenatal visits in 2018 (data on number of visits exclude very pre-term births).

Most Indigenous mothers (66%) had their first antenatal visit in the first trimester of pregnancy (less than 14 completed weeks gestation) in 2018, and this has increased over time, from 50% in 2012.

The proportion of Indigenous mothers receiving antenatal care in the first trimester was highest in *Inner regional* areas (68%) and ranged from 63% to 67% in other areas. These proportions have all increased since 2012.

The majority of Indigenous mothers who gave birth at 32 weeks or more attended at least 5 antenatal visits (88%), a small increase from 86% in 2012 (excludes data from Victoria, see Appendix Table D2).

Indigenous mothers who attended an antenatal visit in the first trimester, by remoteness, 2012 and 2018



Fewer Indigenous mothers are smoking during pregnancy

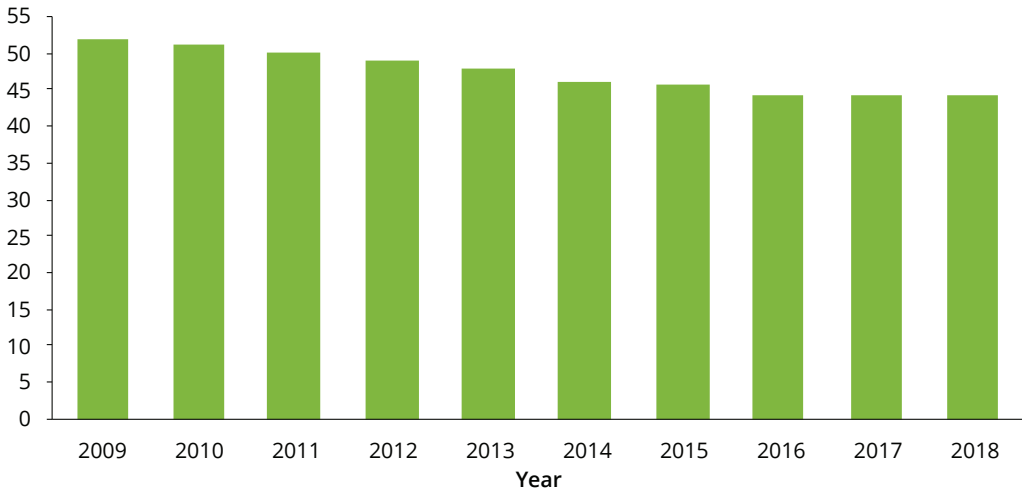
About 2 in 5 Indigenous mothers (44%) reported smoking during pregnancy, a decrease from 52% in 2009.

For Indigenous mothers, rates of smoking were highest among *Remote* (48%) and *Very remote* (57%) areas and lowest in *Major cities* (38%). Since 2012, smoking rates have fallen across all remoteness areas by between 3 and 6 percentage points except *Very remote* areas, where the rate has increased from 53%.

Of those who smoked, the rate of smoking cessation during pregnancy was 10%. This is based on Indigenous mothers who reported smoking in the first 20 weeks of pregnancy and not smoking after 20 weeks of pregnancy.

Indigenous mothers who smoked at any time during pregnancy, 2009 to 2018

Per cent



Note: Mother's tobacco smoking status during pregnancy is self-reported.

Around 2 in 5 Indigenous mothers are in the healthy weight range

Among Indigenous mothers who gave birth in 2018:

- almost 2 in 5 (38%) were in the normal weight range according to body mass index
- one-quarter (24%) were overweight
- almost one-third (31%) were obese
- a small proportion were underweight (6.8%).

Information is also available on other maternal health conditions, including pre-existing or gestational hypertension and diabetes. In 2018, among Indigenous mothers who gave birth:

- 12% had gestational diabetes and 2.1% had pre-existing diabetes
- 3.2% had gestational hypertension and 1.2% had pre-existing (chronic) hypertension (hypertension data excludes Victoria, see Appendix Table D2).

Around half of Indigenous mothers have spontaneous onset of labour

Indigenous mothers were more likely to have spontaneous onset of labour (49%) than induced labour (33%) or no labour (18%) in 2018.

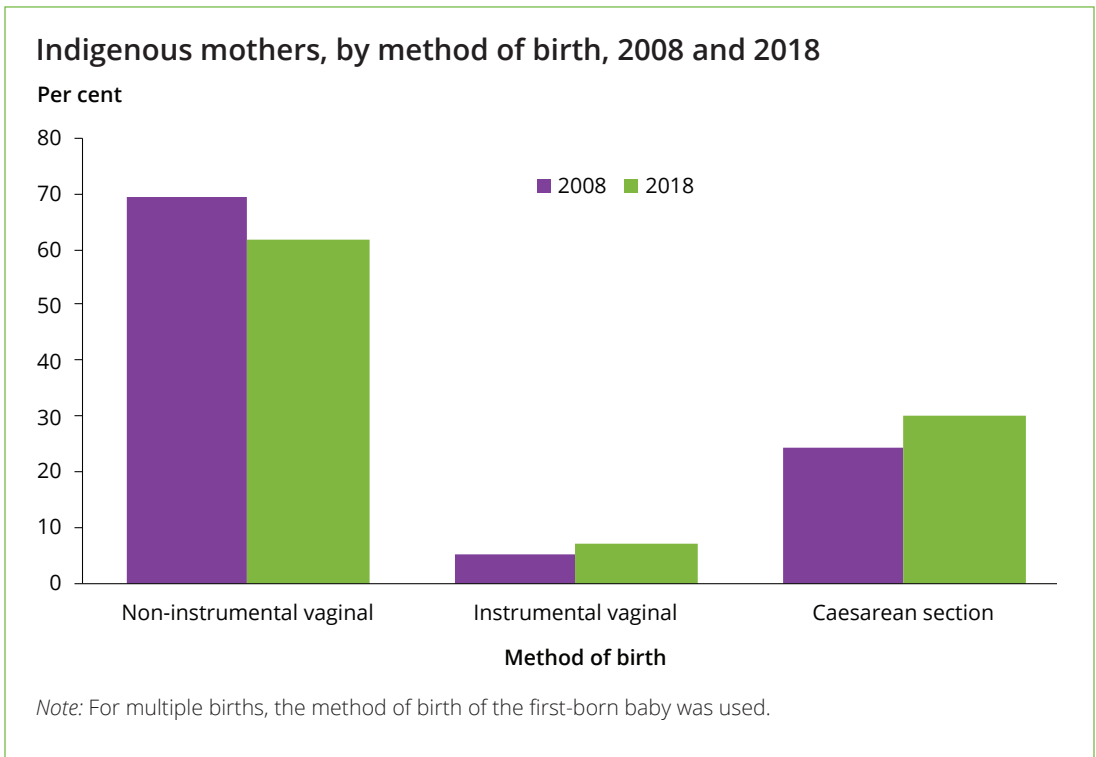
Since 2008, the rate of spontaneous onset of labour has decreased from 67%, while the rates of induced labour and no labour have increased correspondingly (from 20% and 13%, respectively).

Of Indigenous mothers who had labour in 2018, 3 in 4 (75%) received pain relief during labour.

Non-instrumental vaginal births are most common for Indigenous mothers

Most (62%) Indigenous mothers had a non-instrumental vaginal birth in 2018. Smaller proportions had a caesarean section (31%) or an instrumental vaginal birth (7.3%).

The rate of caesarean section rose from 25% in 2008, and the rate of non-instrumental vaginal birth fell from 70%. The rate of instrumental vaginal birth was slightly less in 2008 at 5.6%.



Find out more in the Perinatal data visualisations: [Indigenous mothers](#)

Babies of Indigenous mothers

Most babies of Indigenous mothers are born at term

In 2018, the median gestational age of babies of Indigenous mothers was 39 weeks.

The majority of babies of Indigenous mothers (86%) were born at term; however, around 1 in 7 (14%) were born pre-term. Less than 1% were born post-term. These proportions have remained steady since 2008.

Steady rates of low birthweight among babies of Indigenous mothers

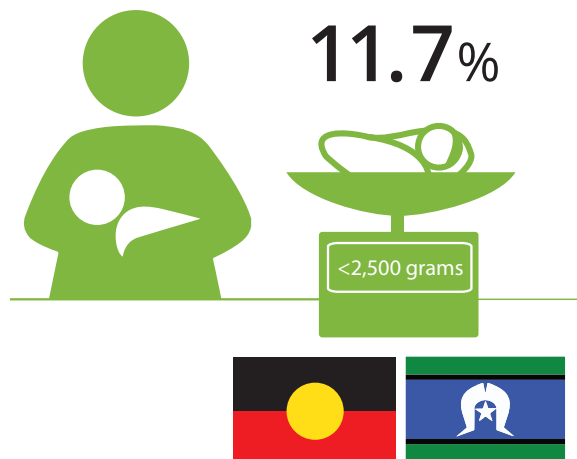
In 2018, the average liveborn baby of an Indigenous mother weighed 3,214 grams.

Of all liveborn babies of Indigenous mothers, 11.7% (1,615) were of low birthweight. This proportion included:

- 9.8% of babies of Indigenous mothers in the low birthweight range of 1,500–2,499 grams
- 1.9% of babies of Indigenous mothers with very low birthweight (less than 1,500 grams).
Most babies in this group were extremely low birthweight (less than 1,000 grams).

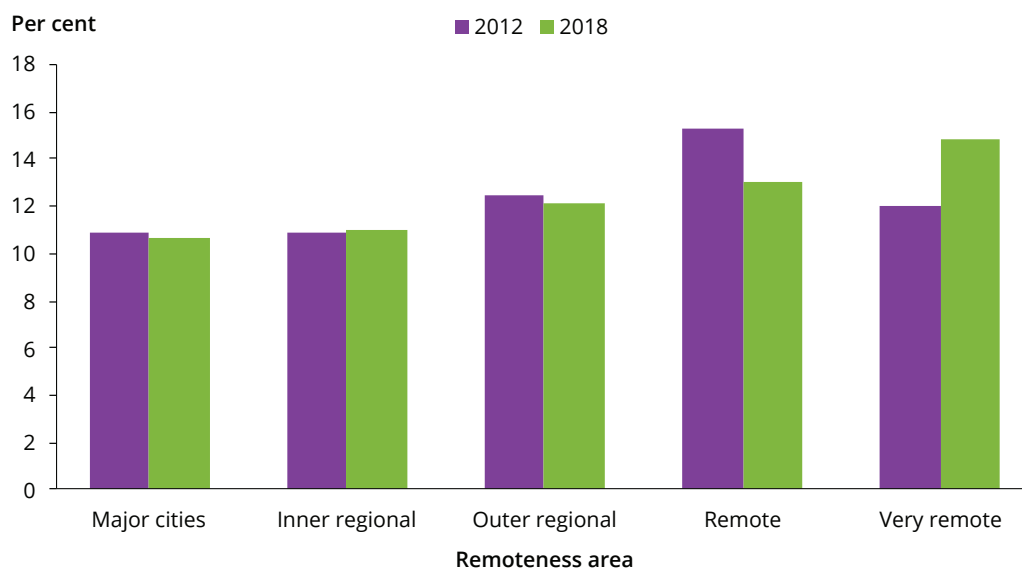
There was little change in the proportion of low birthweight babies born to Indigenous mothers between 2008 and 2018, with the rate fluctuating between 11.6% and 12.6%. The proportion of babies born small for gestational age has also remained similar between 2013 and 2018, ranging from 14.4% to 13.8%. See Chapter 5 for more data on trends.

Low birthweight babies of Indigenous mothers increased with increasing remoteness in 2018, ranging from 10.6% in *Major cities* to 14.8% in *Very remote* areas.



Proportion of low birthweight babies of Indigenous mothers in 2018

Low birthweight of liveborn babies of Indigenous mothers, by remoteness, 2012 and 2018



Almost all babies of Indigenous mothers have high Apgar scores at 5 minutes after birth

Apgar scores, use of resuscitation and admission to special care nurseries (SCN) or neonatal intensive care units (NICU) can indicate the health of newborn babies.

In 2018, among liveborn babies of Indigenous mothers:

- more than one-quarter (28%) were admitted to an SCN or NICU (excludes data from New South Wales and Western Australia, see Appendix Table D2)
- the vast majority had an Apgar score of 7 or more at 5 minutes (97%)
- one-fifth (20%) required some form of active resuscitation (excludes data from Western Australia, see Appendix Table D2).

Babies of Indigenous mothers, born in hospital and discharged home, had a median length of stay in hospital of 2 days. Almost 1 in 3 (29%) stayed 1 day or less and a further 46% stayed 2–3 days, followed by smaller proportions staying 4–5 days (13%) or 6 days or more (12%) (excludes data from Western Australia, see Appendix Table D2).

Neonatal death rates falling slightly for babies of Indigenous mothers

In 2018, there were 16 perinatal deaths for every 1,000 births among babies of Indigenous mothers. This included:

- 11.5 fetal deaths (stillbirths) per 1,000 births for babies of Indigenous mothers—similar to 11.2 per 1,000 in 2008.
- 4.6 neonatal deaths per 1,000 live births for babies of Indigenous mothers—a small decrease from 6.2 per 1,000 in 2008.

Perinatal mortality rates have decreased slightly from 17 deaths per 1,000 births in 2008 to 16 in 2018.

The leading causes of death for babies of Indigenous mothers were congenital anomalies (16% of perinatal deaths in 2018) and spontaneous pre-term birth (12%) (data exclude New South Wales, Western Australia and the Northern Territory).

Comparisons with non-Indigenous mothers and babies

There were disparities between Indigenous and non-Indigenous mothers and their babies across a range of maternal and perinatal measures in 2018.

Compared with non-Indigenous mothers, Indigenous mothers were:

- 8 x as likely** to be teenage mothers
- 0.9 x as likely** to attend an antenatal visit in the first trimester of pregnancy
- 0.9 x as likely** to attend 5 or more antenatal visits (data exclude very pre-term births)
- 4 x as likely** to smoke at any time during pregnancy
- 1.6 x as likely** to be obese
- 1.1 x as likely** to have gestational diabetes
- 4 x as likely** to have pre-existing diabetes
- 3 x as likely** to have pre-existing (chronic) hypertension (data exclude Victoria)
- 1.0 x as likely** to have gestational hypertension (data exclude Victoria)

Note: Data are based on age-standardised percentages, except for teenage mothers.

Compared with babies of non-Indigenous mothers, babies of Indigenous mothers were:

- 1.6 x as likely** to be born pre-term
- 1.8 x as likely** to be low birthweight
- 1.5 x as likely** to be small for gestational age
- 1.6 x as likely** to be admitted to a special care nursery or neonatal intensive care unit
- 1.7 x as likely** to be stillborn
- 2 x as likely** to die within the first 28 days of life (neonatal death)



Find out more in the data visualisations: [Indigenous mothers](#)

5 Key statistics and trends

This chapter presents the data behind the key statistics and trends reported in chapters 2 to 4. Detailed data tables, including state and territory data, are also available online from the AIHW website at <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/data>.

Key trends for Australia's mothers and babies, 2008 to 2018

Topic	Unit	Year											Annual change ^(a)	Per cent change ^(a)	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Mothers															
Women who gave birth	Number	292,159	294,547	295,456	297,343	307,570	304,777	307,844	304,268	310,247	301,095	298,630	1,064	*3.6	
Women who gave birth per 1,000 women of reproductive age (15–44 years)	Rate	65.3	64.6	63.9	63.7	64.8	63.3	63.2	61.7	62.3	59.6	58.3	-0.6	*-9.0	
Average maternal age (years)	Average	29.9	30.0	30.0	30.0	30.1	30.1	30.2	30.3	30.5	30.6	30.7	0.1	*2.6	
Indigenous mothers	Average	25.1	25.2	25.2	25.3	25.2	25.3	25.5	25.6	25.9	26.0	26.2	0.1	*4.3	
First-time mothers	Average	28.2	27.9	28.3	29.0	28.4	28.6	28.7	28.9	29.0	29.2	29.3	0.1	*4.3	
Maternal age (years)															
Under 25	Per cent	18.7	18.3	18.0	17.5	17.2	16.9	16.0	15.3	14.4	13.8	13.3	-0.6	*-29.0	
25–34	Per cent	58.4	58.9	59.0	59.8	60.4	60.9	61.9	62.3	62.7	62.5	62.5	0.5	*8.2	
35 and over	Per cent	22.9	22.9	23.0	22.7	22.4	22.3	22.1	22.3	22.8	23.7	24.2	0.1	3.4	
Antenatal visits															
5 or more antenatal visits ^(b)															
All mothers	Per cent	n.a.	n.a.	n.a.	n.a.	95.4	95.4	95.2	95.5	95.7	95.7	95.4	0.0	0.3	
Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	n.a.	86.1	85.1	85.5	86.9	86.6	87.6	87.2	0.3	*2.3	
Non-Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	n.a.	95.3	95.4	95.3	95.5	95.6	95.6	95.2	0.0	0.1	

(continued)

Key trends for Australia's mothers and babies, 2008 to 2018 (continued)

Topic	Unit	Year											Annual change ^(a)	Per cent change ^(a)	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
<i>Antenatal visit in the first trimester</i>															
All mothers	Per cent	n.a.	n.a.	n.a.	n.a.	62.7	61.8	61.6	64.6	68.6	72.0	74.2	2.2	*22.2	
Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	n.a.	50.5	51.8	52.7	56.9	61.9	62.9	64.9	2.7	*32.3	
Non-Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	n.a.	61.4	60.2	60.1	63.1	67.1	70.7	73.0	2.2	*23.0	
<i>Tobacco smoking during pregnancy</i>															
<i>Smoked at any time during pregnancy</i>															
All mothers	Per cent	n.a.	14.6	13.7	13.2	12.5	11.7	11.0	10.4	9.9	9.9	9.6	-0.6	*-36.5	
Indigenous mothers	AS per cent	n.a.	49.9	49.4	48.1	47.1	47.7	45.2	44.7	42.8	44.3	44.2	-0.7	*-13.4	
Non-Indigenous mothers	AS per cent	n.a.	16.3	15.4	14.8	14.2	13.2	12.6	12.2	11.6	11.8	11.4	-0.6	*-31.6	
<i>Smoked in the first 20 weeks of pregnancy</i>															
All mothers	Per cent	n.a.	n.a.	n.a.	12.9	12.1	11.3	10.6	10.1	9.5	9.5	9.2	-0.5	*-29.5	
Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	47.2	46.5	46.6	44.4	43.6	41.9	43.4	42.7	-0.7	*-11.0	
Non-Indigenous mothers	AS per cent	n.a.	n.a.	n.a.	14.5	13.8	12.8	12.2	11.8	11.2	11.4	10.9	-0.5	*-24.7	
<i>Postnatal stay</i>															
Less than 2 days	Per cent	14.4	17.0	16.3	17.2	18.0	19.6	20.5	20.7	21.4	21.1	21.5	0.7	*45.5	
2-4 days	Per cent	65.3	63.7	66.3	65.9	65.4	65.0	64.9	64.9	64.7	65.1	65.3	0.0	-0.2	
5 or more days	Per cent	19.3	18.2	17.4	16.9	16.5	15.4	14.5	14.3	13.8	13.7	13.2	-0.6	*-32.3	
<i>Onset of labour</i>															
Spontaneous labour	Per cent	57.0	56.2	56.0	54.8	54.2	52.7	51.3	50.1	48.4	45.6	43.2	-1.3	*-22.7	
Induced labour	Per cent	24.8	25.3	25.2	26.0	26.3	27.6	28.4	29.3	30.5	32.5	34.2	0.9	*38.5	
No labour	Per cent	18.2	18.4	18.8	19.1	19.4	19.7	20.3	20.5	21.0	21.9	22.5	0.4	*23.2	

(continued)

Key trends for Australia's mothers and babies, 2008 to 2018 (continued)

Topic	Unit	Year											Annual change ^(a)	Per cent change ^(a)	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Method of birth															
Non-instrumental vaginal birth	Per cent	57.5	56.8	56.3	55.6	55.2	54.8	54.4	54.2	53.4	52.8	52.0	52.0	-0.5	*-8.8
Instrumental vaginal birth	Per cent	11.4	11.7	12.0	12.1	12.4	12.4	12.5	12.5	12.8	12.6	12.7	12.7	0.1	*10.0
Caesarean section	Per cent	31.1	31.5	30.2	32.3	32.4	32.8	33.1	33.3	33.8	34.6	35.3	35.3	0.4	*14.1
Multiple pregnancies															
Multiple pregnancies per 1,000 mothers	Rate	16.1	15.6	15.9	15.5	15.0	15.2	15.0	14.9	14.5	15.0	14.5	14.5	-0.1	*-9.0
Babies															
Babies born	Number	296,928	299,227	300,215	302,025	312,251	309,489	312,548	308,887	314,814	305,667	303,029	303,029	1,037	*3.4
Gestational age															
Pre-term (20–36 weeks)	Per cent	8.2	8.2	8.3	8.3	8.5	8.6	8.6	8.7	8.5	8.7	8.7	8.7	0.1	*6.9
Term (37–41 weeks)	Per cent	90.9	90.8	90.9	91.0	90.9	90.9	90.9	90.9	90.8	90.7	90.8	90.8	0.0	-0.1
Post-term (42 weeks and over)	Per cent	0.9	0.9	0.8	0.7	0.6	0.5	0.5	0.4	0.6	0.5	0.4	0.4	0.0	*-56.0
Birthweight^(c)															
Low birthweight	Per cent	6.1	6.2	6.2	6.3	6.2	6.4	6.4	6.5	6.5	6.7	6.7	6.7	0.1	*9.2
Low birthweight babies with Indigenous mothers	Per cent	12.4	12.0	12.0	12.6	11.8	12.2	11.8	11.9	11.6	12.5	11.7	11.7	0.0	-3.0
Low birthweight babies with non-Indigenous mothers	Per cent	5.9	5.9	6.0	6.0	6.0	6.1	6.2	6.2	6.3	6.4	6.4	6.4	0.1	*9.6
Low birthweight Indigenous babies	Per cent	n.a.	n.a.	n.a.	n.a.	n.a.	11.1	10.8	11.1	10.8	11.5	11.2	11.2	0.1	3.2
Low birthweight non-Indigenous babies	Per cent	n.a.	n.a.	n.a.	n.a.	n.a.	6.1	6.1	6.2	6.2	6.3	6.3	6.3	0.0	*3.9

(continued)

Key trends for Australia's mothers and babies, 2008 to 2018 (continued)

Topic	Unit	Year											Annual change ^(a)	Per cent change ^(a)	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Birthweight ^(c) (continued)															
Low birthweight singleton	Per cent	4.7	4.7	4.8	4.8	4.8	4.8	4.9	5.0	5.1	5.2	5.2	5.2	0.1	*11.6
Low birthweight singleton babies with Indigenous mothers	Per cent	11.2	10.9	10.7	11.2	10.5	10.9	10.5	10.4	10.2	10.7	10.2	10.2	-0.1	*-6.8
Low birthweight singleton babies with non-Indigenous mothers	Per cent	4.4	4.5	4.5	4.5	4.5	4.6	4.7	4.8	4.8	4.9	4.9	4.9	0.1	*12.6
Low birthweight singleton Indigenous babies	Per cent	n.a.	n.a.	n.a.	n.a.	n.a.	9.8	9.6	9.6	9.6	9.9	9.8	9.8	0.0	1.4
Low birthweight singleton non-Indigenous babies	Per cent	n.a.	n.a.	n.a.	n.a.	n.a.	4.5	4.6	4.7	4.8	4.9	4.9	4.9	0.1	*7.2
Perinatal deaths															
Perinatal deaths per 1,000 births	Rate	10.2	7.4	10.2	10.2	9.6	9.7	9.6	9.2	9.1	9.5	9.2	9.2	0.0	-1.7
Stillbirths per 1,000 births	Rate	7.4	7.8	7.3	7.4	7.2	7.1	7.0	7.0	6.7	7.1	7.0	7.0	-0.1	*-9.3
Neonatal deaths per 1,000 live births	Rate	2.8	2.2	2.9	2.8	2.4	2.6	2.5	2.2	2.4	2.4	2.2	2.2	0.0	-15.4

n.a. Not available

* Indicates results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2008 to 2018. See Appendix D for further information on methods.

(a) Determined by linear regression (see Appendix D for further information on methods). The annual change is the estimated average annual change between 2008 and 2018. The percentage change is the percentage change between 2008 and 2018.

(b) Based on women who gave birth at 32 weeks or more gestation (excluding unknown gestation). Trend data exclude Victoria (see Appendix Table D2).

(c) Includes liveborn babies only.

Notes

1. Results should be interpreted with caution due to changes in data collection methods over time.
2. Age-standardised (AS) per cents have been directly age-standardised to the Australian female population aged 15–44 as at 30 June 2001.

Key statistics by maternal characteristics and baby outcomes, 2018

Maternal characteristics	Mothers						Babies							
	Antenatal visit in first trimester		5 or more antenatal visits ^(a)		Smoked in the first 20 weeks of pregnancy		Caesarean section ^(b)		Pre-term		Low birthweight ^(c)		Apgar score less than 7 at 5 mins ^(d)	
	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio
Mother's Indigenous status ^(e)														
Indigenous	64.9	0.9	87.1	0.9	42.7	3.9	33.5	1.0	13.8	1.6	10.2	2.1	2.9	1.7
Non-Indigenous	73.0	..	94.1	..	10.9	..	35.2	..	8.5	..	4.9	..	1.8	..
Maternal age														
Under 20	62.8	..	90.6	..	31.1	..	19.8	..	11.1	..	9.2	..	3.1	..
20-24	68.5	1.1	92.3	1.0	20.7	0.7	24.7	1.2	9.1	0.8	6.2	0.7	2.1	0.7
25-29	72.8	1.2	94.1	1.0	10.0	0.3	30.3	1.5	8.0	0.7	4.8	0.5	1.9	0.6
30-34	76.1	1.2	94.9	1.0	6.0	0.2	36.5	1.8	8.2	0.7	4.8	0.5	1.7	0.5
35-39	76.8	1.2	95.1	1.0	6.0	0.2	43.4	2.2	9.4	0.9	5.1	0.6	1.7	0.5
40 and over	76.7	1.2	95.0	1.0	6.3	0.2	54.0	2.7	12.4	1.1	6.4	0.7	1.9	0.6
Remoteness														
Major cities	73.8	..	94.6	..	6.9	..	35.2	..	8.5	..	5.0	..	1.7	..
Inner regional	75.0	1.0	93.5	1.0	14.3	2.1	34.6	1.0	9.1	1.1	5.3	1.1	2.1	1.2
Outer regional	76.4	1.0	94.2	1.0	16.5	2.4	35.1	1.0	9.6	1.1	5.7	1.1	2.2	1.3
Remote	77.0	1.0	93.8	1.0	17.9	2.6	34.6	1.0	10.1	1.2	5.6	1.1	2.4	1.4
Very remote	69.5	0.9	90.6	1.0	36.4	5.2	35.2	1.0	13.4	1.6	10.0	2.0	3.3	2.0
Socioeconomic status (SES)														
Lowest SES	70.3	0.9	92.9	1.0	17.2	6.3	33.4	0.9	9.9	1.3	6.6	1.6	2.1	1.5
Highest SES	77.4	..	95.6	..	2.7	..	36.7	..	7.7	..	4.1	..	1.4	..

(continued)

Key statistics by maternal characteristics and baby outcomes, 2018 (continued)

	Mothers						Babies							
	Antenatal visit in first trimester		5 or more antenatal visits ^(a)		Smoked in the first 20 weeks of pregnancy		Caesarean section ^(b)		Pre-term		Low birthweight ^(c)		Apgar score less than 7 at 5 mins ^(d)	
	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio
Duration of pregnancy at first antenatal visit (weeks)														
<i>Less than 14 (first trimester)</i>	..	..	96.1	..	8.1	..	36.0	..	8.6	..	4.9	..	1.7	..
14-19	..	..	93.9	1.0	10.2	1.3	33.0	0.9	7.8	0.9	5.2	1.1	1.8	1.0
20 and over	..	..	83.4	0.9	16.1	2.0	33.2	0.9	9.4	1.1	6.7	1.4	2.2	1.3
Number of antenatal visits														
None	..	..	..	..	41.2	4.8	19.9	0.6	39.3	5.2	22.2	4.8	9.1	5.6
1	37.5	0.5	..	..	16.4	1.9	35.5	1.0	22.0	2.9	13.2	2.9	4.3	2.6
2-4	58.9	0.8	..	..	19.7	2.3	32.2	0.9	23.2	3.0	14.0	3.1	4.6	2.8
5 or more	75.6	..	..	..	8.6	..	35.5	..	7.6	..	4.6	..	1.6	..
Smoked in the first 20 weeks of pregnancy														
Smoked	65.1	0.9	88.1	0.9	..	..	32.4	0.9	13.5	1.7	11.2	2.5	2.7	1.6
Did not smoke	75.2	..	95.1	..	..	..	35.6	..	8.2	..	4.5	..	1.7	..
Baby outcomes														
Gestational age														
Pre-term	73.6	1.0	88.4	0.9	15.0	1.7	48.8	1.4	..	..	51.2	25.2	7.5	5.7
Term	74.3	..	94.8	..	8.8	..	34.1	..	..	..	2.0	..	1.3	..
Post-term	72.9	1.0	95.2	1.0	6.1	0.7	33.4	1.0	..	..	0.2	0.1	2.2	1.7

(continued)

Key statistics by maternal characteristics and baby outcomes, 2018 (continued)

	Mothers						Babies							
	Antenatal visit in first trimester		5 or more antenatal visits ^(a)		Smoked in the first 20 weeks of pregnancy		Caesarean section ^(b)		Pre-term		Low birthweight ^(c)		Apgar score less than 7 at 5 mins ^(d)	
	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio	%	Rate ratio
Birthweight														
Low (less than 2,500 grams)	71.8	1.0	89.2	0.9	18.5	2.1	47.5	1.4	71.5	18.6	..	..	7.6	5.5
<i>Normal (2,500 to 4,499 grams)</i>	74.4	..	94.6	..	8.6	..	34.3	..	3.8	..	..	..	1.4	..
High (4,500 grams and over)	73.0	1.0	95.1	1.0	6.5	0.7	45.8	1.3	0.8	0.2	..	..	1.9	1.4
Plurality														
<i>Singletons</i>	..	..	..	..	..	..	34.9	..	7.0	..	5.2	..	1.7	..
Twins	..	..	..	..	..	..	70.5	2.0	66.7	9.5	56.5	10.9	4.7	2.7
Other multiples	..	..	..	..	..	..	71.4	2.0	98.4	14.1	97.8	18.8	8.8	5.1
Total	74.2	..	93.8	..	9.2	..	35.3	..	8.7	..	5.2	..	1.8	..

.. Not applicable

(a) Based on women who gave birth at 32 weeks or more gestation (excluding unknown gestation).

(b) Per cents for caesarean section delivery have been directly age-standardised to the Australian female population aged 15–44 as at 30 June 2001, except for the maternal age category.

(c) Includes liveborn singleton babies only, except for the plurality category.

(d) Includes liveborn babies only.

(e) Per cents by mother's Indigenous status for antenatal visit in the first trimester, 5 or more antenatal visits, smoked in the first 20 weeks of pregnancy and caesarean section have been directly age-standardised to the Australian female population aged 15–44 as at 30 June 2001.

Note: Reference categories for rate ratios are indicated in italics. See Appendix D for further information on methods.

Appendixes

Appendixes are available for download from the AIHW website on the *Australia's mothers and babies 2018—in brief* web page at <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/contents/table-of-contents>:

- Appendix A: About the National Perinatal Data Collection
- Appendix B: Perinatal national minimum data set items
- Appendix C: State and territory perinatal data collections
- Appendix D: Data quality, methods and interpretation.

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Abbreviations

AIHW	Australian Institute of Health and Welfare
BMI	body mass index
NICU	neonatal intensive care unit
NPDC	National Perinatal Data Collection
NSW	New South Wales
OECD	Organisation for Economic Co-operation and Development
PHN	Primary Health Network
PSANZ-PDC	Perinatal Society of Australia and New Zealand Clinical Practice Guideline for Perinatal Mortality Perinatal Death Classification
SA	South Australia
SCN	special care nursery
SES	socioeconomic status
WA	Western Australia
WHO	World Health Organization

Glossary

age-specific rate: A rate for a specific age group. The numerator and denominator relate to the same age group.

age standardisation: A method of removing the influence of age when comparing populations with different **age structures**. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, and then the disease rates that would have occurred with that structure are calculated and compared.

age structure: The relative number of people in each age group in a population.

antenatal: The period covering conception up to the time of birth. Synonymous with prenatal.

Apgar score: Numerical score used to indicate the baby's condition at 1 minute and at 5 minutes after birth. Between 0 and 2 points are given for each of 5 characteristics: heart rate, breathing, colour, muscle tone and reflex irritability. The total score is between 0 and 10.

augmentation of labour: Intervention after the spontaneous onset of labour to assist the progress of labour.

baby's length of stay: Number of days between date of birth and date of separation from the hospital of birth (calculated by subtracting the date of birth from the date of separation).

birth status: Status of the baby immediately after birth (**stillborn** or liveborn).

birthweight: The first weight of the baby (**stillborn** or liveborn) obtained after birth (usually measured to the nearest 5 grams and obtained within 1 hour of birth).

breech presentation: A fetal presentation in which the buttocks are at the opening of the uterus. In a frank breech, the legs are straight up in front of the body. In a complete breech the legs are folded, but the feet are above the buttocks. In an incomplete breech, the feet are below the buttocks.

caesarean section: A method of birth in which a surgical incision is made into the mother's uterus via the abdomen to directly remove the baby.

diabetes (diabetes mellitus): A chronic condition in which the body cannot properly use its main energy source, the sugar glucose. This is due to a relative or absolute deficiency in insulin. Insulin, a hormone produced by the pancreas, helps glucose enter the body's cells from the bloodstream and then be processed by them. Diabetes is marked by an abnormal build-up of glucose in the blood and can have serious short- and long-term effects.

episiotomy: An incision of the perineum and vagina to enlarge the vulval orifice.

fetal death (stillbirth): Death, before the complete expulsion or extraction from its mother, of a product of conception of 20 or more completed weeks of gestation or of 400 grams or more **birthweight**. Death is indicated by the fact that, after such separation, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles.

fetal death (stillbirth) rate: Number of **fetal deaths** per 1,000 total births (fetal deaths plus live births).

first degree laceration: Graze, laceration, rupture or tear of the perineal skin during delivery that may be considered to be slight or that involves fourchette, labia, vagina or vulva.

forceps: Handheld, hinged obstetric instrument applied to the fetal head to assist birth.

fourth degree laceration: Perineal laceration, rupture or tear, as in **third degree laceration**, occurring during delivery and also involving anal mucosa or rectal mucosa.

gestational age: Duration of pregnancy in completed weeks, calculated either from the date of the first day of a woman's last menstrual period and her baby's date of birth, or via ultrasound, or derived from clinical assessment during pregnancy or from examination of the baby after birth.

high blood pressure/hypertension: Definitions vary but a well-accepted one is from the World Health Organization (WHO): a systolic blood pressure of 140 mmHg or more or a diastolic blood pressure of 90 mmHg or more, or [the person is] receiving medication for high blood pressure.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander.

induction of labour: Intervention to stimulate the onset of labour.

instrumental birth: Vaginal birth using **forceps** or **vacuum extraction**.

intrauterine growth restriction: A fetus whose estimated weight is below the 10th percentile for its **gestational age**.

live birth: The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn (World Health Organization definition).

low birthweight: Weight of a baby at birth that is less than 2,500 grams.

mainly non-English-speaking country: Countries where a language other than English is likely to be spoken. Includes all countries other than Australia, Canada, Republic of Ireland, New Zealand, South Africa, United Kingdom and the United States of America.

maternal age: Mother's age in completed years at the birth of her baby.

mode of separation: Status at separation of patient (discharge/transfer/death) and place to which patient is released (where applicable).

mother's length of stay: Number of days between admission date (during the admission resulting in a birth) and separation date (from the hospital where birth occurred). The interval is calculated by subtracting the date of admission from the date of separation.

neonatal death: Death of a liveborn baby within 28 days of birth.

neonatal mortality rate: Number of **neonatal deaths** per 1,000 live births.

non-Indigenous: People who have indicated that they are not of Aboriginal or Torres Strait Islander descent.

parity: Number of previous pregnancies resulting in **live births** or **stillbirths**, excluding the current pregnancy.

perinatal death: A **fetal** or **neonatal death** of at least 20 weeks gestation or at least 400 grams **birthweight**.

perinatal mortality rate: Number of **perinatal deaths** per 1,000 total births (**stillbirths** plus **live births**).

perineal status: State of the perineum following birth. Perineal status is categorised as intact, **first**, **second**, **third**, or **fourth degree laceration**, **episiotomy**, or as another type of perineal laceration, rupture or tear.

plurality: Number of births resulting from a pregnancy.

postneonatal death: Death of a liveborn baby after 28 days and within 1 year of birth.

post-term birth: Birth at 42 or more completed weeks of gestation.

presentation at birth: The part of the fetus that presents first at birth.

pre-term birth: Birth before 37 completed weeks of gestation.

primary caesarean section: **Caesarean section** to a mother with no previous history of caesarean section.

resuscitation of baby: Active measures taken shortly after birth to assist the baby's ventilation and heartbeat, or to treat depressed respiratory effort and to correct metabolic disturbances.

second degree laceration: Perineal laceration, rupture or tear, as in **first degree laceration**, occurring during delivery and also involving pelvic floor, perineal muscles or vaginal muscles.

spontaneous labour: Onset of labour without intervention.

stillbirth: See **fetal death (stillbirth)**.

teenage mother: Mother aged younger than 20 at the birth of her baby.

third degree laceration: Perineal laceration, rupture or tear, as in **second degree laceration**, occurring during delivery and also involving the anal floor, rectovaginal septum or sphincter not otherwise specified.

vacuum extraction: Assisted birth using traction or rotation on a suction cap applied to the baby's head.

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Related publications

This report, *Australia's mothers and babies 2018—in brief*, is part of an annual series. Earlier and subsequent editions can be downloaded free from the AIHW website <https://www.aihw.gov.au/reports-statistics/population-groups/mothers-babies/reports>.

Detailed data tables and appendixes relating to this report were published separately online. See <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-and-babies-2018-in-brief/contents/table-of-contents>.

The following AIHW publications and data visualisations relating to mothers and babies may also be of interest:

- Australia's mothers and babies data visualisations, available at <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies-data-visualisations/>.
- AIHW 2019. Stillbirths and neonatal deaths in Australia 2015 and 2016. Cat. no. PER 102. Canberra: AIHW.
- AIHW 2018. Teenage mothers in Australia 2015. Cat. no. PER 93. Canberra: AIHW.
- Maternal deaths in Australia, available at <https://www.aihw.gov.au/reports/mothers-babies/maternal-deaths-in-australia/contents/maternal-deaths-in-australia>.
- National Core Maternity Indicators data visualisations, available at <https://www.aihw.gov.au/reports/mothers-babies/ncmi-data-visualisations>.



Australia's mothers and babies 2018—in brief presents key statistics and trends on pregnancy and childbirth of mothers, and the characteristics and outcomes of their babies. The report is designed to accompany complementary online data visualisations available at <http://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies-data-visualisations/>.

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